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Journal of the American Medical Association.

EDITED FOR THE ASSOCIATION BY N. S. DAVIS.

PUBLISHED WEEKLY.

VOL. II. CHICAGO, MARCH 15, 1884. NO. 11.

ORIGINAL ARTICLES.

RAPID LITHOTRITY OR LITHOLAPAXY, ITS LATER IMPROVEMENTS AND ITS PRESENT CONDITION.

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Lithotrity at one sitting, as planned and developed by Prof. Bigelow, has revolutionized the treatment of vesical calculus. Those most familiar with this method will agree with me that it is destined not only to supersede the slow lithotrity, but to abolish lithotomy itself in forty-nine fiftieths of the adult cases. I have now performed this operation eighteen times with only one death, though the patients averaged nearly sixty years of age, and the stones were mostly very large. In one of the successful cases the crushed fragments weighed two ounces and five drams, and the patient was about 70 years of age. No such success could have been obtained by cutting on such unpromising cases.

Passing by as irrelevant the unpleasant personal controversy between Prof. Bigelow and Sir Henry Thompson, a few words are proper respecting the newly coined word, litholapaxy. By the laws of literature, Prof. Bigelow is not entitled to inflict upon us a new technical term for a mere modification of an old operation, however valuable he may prove it; yet there are some special advantages in the new word, which will probably cause it to be permanently retained. The terms lithotomy and lithotrity by their close resemblence in sound, are an annoyance to every clinical lecturer, as well as to every one of their listeners.

Having frequently to be used in the same discourse they require a vexatious care in both speaker and pupil to prevent one word being mistaken for the other. Litholapaxy, on the contrary, is easily distinguished from lithotomy, and is moreover a smooth and agreeable word to speak, so that by its own merits it will doubtless cling to the new operation, while the old word will become obsolete with the old method.

Litholapaxy is from the Greek *lithos*, a stone, and *lapaxis*, evacuation. The latter word in Greek usage generally refers to evacuation of the bowels, but, like the corresponding English term is not necessarily limited to that meaning, and signifies evacuation of anything.

The first step towards this operation is of course an instrumental demonstration of the presence of a stone by the process of sounding. This operation, as performed with the old instruments, was sufficient to detect stones of ordinary size; but in cases of very small calculi, or in searching for the last minute fragments during the operation of litholapaxy a more delicate apparatus is required. To meet this necessity I devised in the year 1877 an attachment to the ordinary searcher, by which I was enabled to detect by the ear the smallest bit of calculous matter. The apparatus was shown to the Illinois State Medical Society in 1878, and figured and described in the Society's Transactions of the same year (p. 254). In the form there depicted the instrument consists of a light, hollow searcher, having a small rubber tube and ear piece attached. The searcher being introduced into the bladder, and the ear piece placed in the surgeon's ear, the slightest contact with sand or grit becomes distinctly audible. Having subsequently discovered that a solid searcher transmits the sound as well as a hollow one, I modified the plan and appended a small clamp screw to the rubber tube, by which I could attach it at pleasure to any metalic sound whatever.

Figure 1 shows the apparatus clamped to Sir Henry Thompson's searcher. I have one with two tubes attached for the purpose of increasing the intensity of sound by the binaural effect, as well as to assist clinical instruction by enabling two students to listen to the sound at once.

Fig. 1.—The author's Auditory Searcher.

A considerable period after this was published in the Transactions of the Illinois State Medical Society, the London *Lancet* described substantially the same device, naming it a lithophone, as a new invention

of an English surgeon, though it had been published here long before, and had been publicly used for years in Chicago clinics.

The search of the bladder, to be thorough, must be made with at least two forms of instruments, viz.: the ordinary searcher with a short beak, which can be rotated backward to explore the *cul-de-sac* behind the prostate, and the one with a very long beak to reach the front of the bladder near the pubis. I often clamp the tube to a simple britannia metal sound capable of being successively bent into several different curves as the case may require. Contrary to one's natural supposition, this soft metal conveys sound almost as well as steel. The auditory sounds are manufactured and sold by E. H. Sargent & Co., of Chicago, to whose enterprise and kindness I am indebted in the construction of many other new forms of apparatus made at my request.

I have practiced for some years another innovation, which I consider of still more importance, though I am unable to say whether I have any priority over others in that respect. I refer to the great value of using warm carbolized water during the whole operation of litholapaxy, both to distend the bladder during the crushing, and to wash out the fragments afterward. Carbolized water acts as a decided local anæsthetic, benumbing the nervous activity of the bladder, and seeming to me to greatly lessen the shock of prolonged operations; besides, it checks bleeding, and leaves the viscus in a thoroughly antiseptic condition, preventing the formation and the putrefaction of pus, and acting as a very powerful local antiphlogistic. I use it in the strength of about 1½ per cent., and am satisfied that it greatly lessens the danger of all operations in the bladder.

Prof. Bigelow demonstrated the fact that the bladder will tolerate with impunity much larger instruments than those heretofore used, and that the large lithotrites enable us to comminute the stone in a shorter time and with fewer movements than small lithotrites. This advantage is still further enhanced by employing very large wash tubes, which, letting out large fragments of stone, greatly diminish the amount of crushing required.

The beak of the new instrument of the usual size is shown in Fig. 2. Smaller ones are made, however, for special cases.

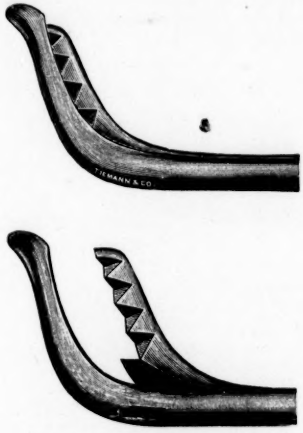

Fig. 2.—Jaws of Bigelow's Lithotrite.

The extra curve at the tip is made to facilitate the introduction through the prostatic portion of the urethra.

Fig. 3 shows the handle at one-half the actual diameter.

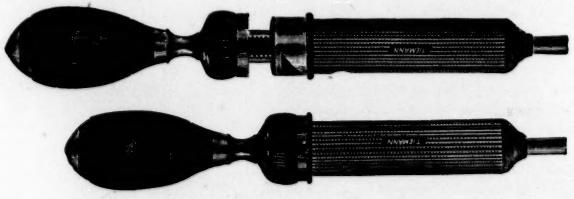

Fig. 3.—Handle of Bigelow's Lithotrite.

More important than his changes in the lithotrite are Prof. Bigelow's improvements in the evacuating instruments. This part of the apparatus was previously in such a wretched condition, that it had very little value, and many of the best lithotritists declined to use it, preferring to let the fragments of stone escape naturally with the urine. As before remarked, Prof. Bigelow greatly enlarged the evacuating catheters, some of them reaching No. 18 of the English, or 32 of the French scale, whereas the previous ones rarely exceeded 11 or 12 English, or 21 to 24 French. He also changed the form, making some straight and others curved, and all of them with a peculiar fenestrum, adapted to enter without scraping the urethra,

Fig. 4.—Beaks of Bigelow's Evacuating Catheters.

and yet to give exit to the largest possible fragments. Not every urethra will admit these great instruments, hence smaller ones must be kept at hand; but in the great majority of adult cases, they pass without difficulty, after slitting the meatus a trifle with a blunt-pointed bistoury.

The evolution of the "wash bottle," as Clover called it, or the "evacuator," in Bigelow's language, constitutes quite a history. Fig. 5 shows a French evacuator, of a complicated and inefficient sort. As it has no practical merits, it may be dismissed without description.

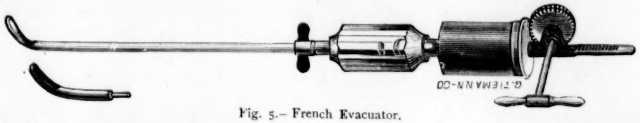

Fig. 5.– French Evacuator.

The apparatus of Sir Philip Crampton was simpler, but no better. It is shown in Fig. 6, and needs no special attention, as it is hopelessly obsolete.

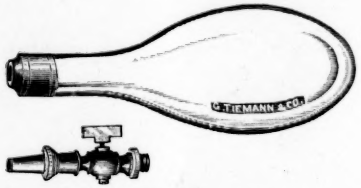

Fig. 6.—Sir Philip Crampton's Evacuator.

For a considerable time the standard evacuator was that of Mr. Clover, of London. His first one (Fig. 7) consisted of a pear-shaped rubber bulb attached to a glass bottle, into which a tube passed for half its length, to which tube catheters of the size of No. 12 English scale were attached. I found this apparatus very faulty, on account of the fact that a large portion of the fragments of stone drawn into the glass receiver would be swirled back again into the bladder at the next compression of the bulb. Moreover, the rubber was too weak for strong suction, and the cath-

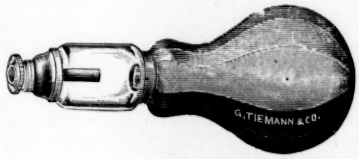

Fig. 7.—Clover's First Wash Bottle.

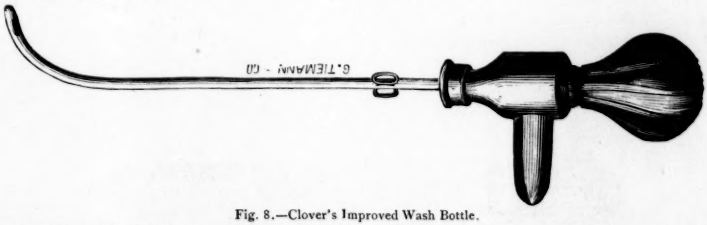

Fig. 8.—Clover's Improved Wash Bottle.

eters were too small. Clover's improved form aimed only to remedy the throwing back of fragments into the bladder. This he attempted by having a trap attached to the side of the glass receiver, into which the fragments might fall and be securely retained (Fig. 8). This plan was better, but still the catheters were too small, and the bulb too weak.

When Prof. Bigelow began to bring out improved evacuators, Sir Henry Thompson appears to have abandoned Clover's instrument, and to have made a series of improved forms, more or less in imitation of those of the Boston surgeon. His earliest one is shown in Fig. 9. F is a funnel for filling the bulb; C, the glass trap for fragments; D, a stop-cock; and B, the catheter. One of its merits was the shortness of the route from the bulb to the catheter, which left but little space for fragments to lodge half way out, where they would be again washed into the bladder. Thompson was soon dissatisfied with this, and produced another, shown in Fig. 10, having a larger trap, and a stop-cock to retain the fragments after they entered it.

Still further changes were now made by Sir Henry, and by Mr. Weiss, resulting in the form shown in Fig. 11.

In this apparatus the trap for fragments was removed from the base of the bulb and placed between the latter and the catheter. I have not used this form, but while it is evidently better than Clover's wash-bottle, the new position of the trap seems to me of doubtful value.

Bigelow saw at the outset the necessity of a better evacuator than Clover's, or any preceding one, and he set himself to the task of its production with such good purpose, that every form since devised, is either a mere modification of his, or at best strongly marked with his ideas. Fig. 12 is his earliest form.

1. is a strong rubber bulb, 2, a rubber tube, 3, 4 and 5 are the catheters, and 6 is the trap for fragments.

Fig. 13 represents a stand which received the glass trap, and held it upright whenever the surgeon wished to set it aside. I have used this evacuator consider-

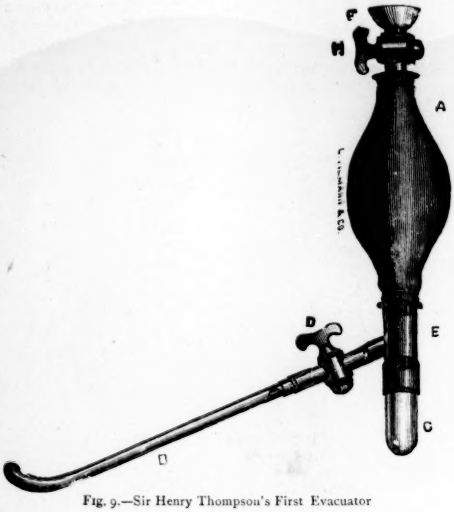

Fig. 9.—Sir Henry Thompson's First Evacuator

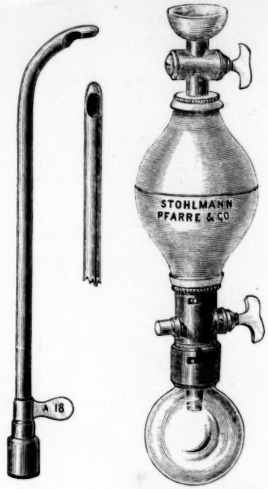

Fig. 10.—An Improved Form by Sir Henry Thompson.

Fig. 12.—Bigelow's First Evacuator.

Fig. 11.—Evacuator as Improved by Sir Henry Thompson and by Weiss.

Fig. 13.—Stand for the Evacuator.

ably, and value it so much that I still keep it by me at all operations as a reserve, in case any accident should disable the one more commonly used by me. It had, however, two defects. In the first place the rubber tube, 2, is liable to become flattened a little by the curvature, or even decidedly kinked, so as to obstruct the passage of fragments. To prevent this, I have had the arch of the tube replaced by a metallic one of the same diameter, and only retain

an inch or two of rubber to make a flexible junction with the catheter. This makes a very effective instrument, but there still remains a defect. The longer the tube leading from the bulb to the bladder, the more fragments will remain in its bore, half drawn out, at the termination of each expansion of the bulb. All such fragments are driven in again at the next compression of the bulb. Hence it is better to have a shorter connection, and this led Bigelow, after some intervening efforts, to adopt the form shown in Figs. 14 and 15. In this plan the stopcock and tube enter the bulb obliquely below the middle. The tube is continued upward and inward to the middle of the bulb, and is there perforated in such a way as to arrest any swirling fragments which may approach it, but do not happen to strike into the very extremity of the tube. As there is always some blood in the bladder in this operation, the fibrinous clots very quickly catch in the perforations of the tube, so that in a few moments it is covered with them, and renders it no better than one not perforated. However, this seems scarcely to injure its action, and besides it can be unshipped and cleaned in

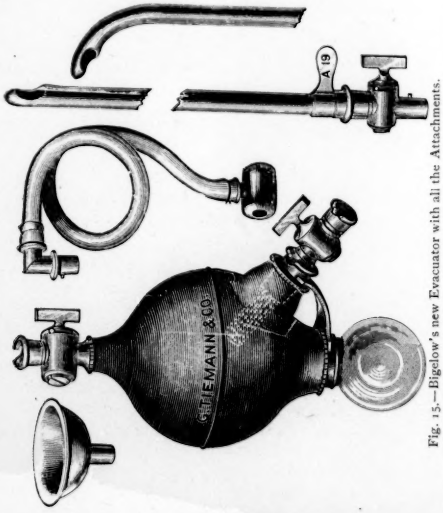

Fig. 15.—Bigelow's new Evacuator with all the Attachments.

a moment by an assistant. It is, perhaps, doubtful whether the perforations are of any use, for while they prevent some bits of stone from going back into the bladder, they render the suction current slower in the perforated part of the tube, and thus leave some fragments still in the tube at the end of the expansion of the bulb, and these pieces are of necessity at the next compression driven into the bladder again. The perforations, therefore, act both ways, and perhaps do as much harm as good. Sir Henry Thompson objects to them. On the whole this is a most excellent evacuator. It has an evil, however, that when filled it is heavy, and being fixed firmly in the catheter, it is more difficult to handle the latter delicately, so as to cause the minimum of irritation to the bladder, than when the catheter has a flexible connection. There has no way been yet devised to combine all the benefits, and at the same time exclude all the evils of stiff and of flexible connections.

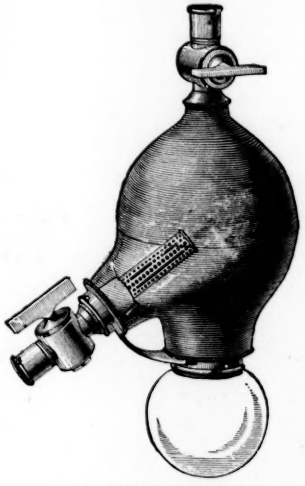

Fig. 14.—Bigelow's new Evacuator.

Much may be done by good management to diminish the throwing back of fragments into the bladder. These are mainly pieces left lying in the tubes when the current ceases at the close of each expansion of the bulb. If the surgeon commences his evacuating with the bladder nearly empty and the tube full of carbolized water, he will be able to press strongly and pass the water nearly all out of the bulb without injuriously distending the bladder. This gives a long suction, as the bulb expands again, and leaves fewer fragments in the tube than when numerous short, jerky compressions and expansions churn a little fluid to and fro in the catheter.

Prof. F. N. Otis, of New York, published in the *Medical Record*, of Nov. 3, 1883, a new form of evacuator, which is shown in Figs. 16 and 17.

I is the rubber bulb, intended to throw air instead of water. Through the rubber tube H it drives air along the metallic tube G into the top of the glass reservoir A. To the bottom of the reservoir is attached the trap F for retaining the fragments of stone. The reservoir A contains only three fluid ounces. From near its bottom the metallic tube B curves upward and outward, and is connected by a short rubber tube with the stop-cock and catheter C. To prepare it for use, Prof. Otis directs to invert the apparatus, take off the trap F, fill the bulb A with water, replace the trap, and then to return the evacuator to its regular position. As the trap holds an ounce and a half, it will now receive that amount from the glass reservoir, leaving only an ounce and a

half in the latter. The catheter being connected and inserted into the bladder, the rubber bulb is compressed by the hand, driving air through the tube H G into the top of the glass reservoir A. Here it presses down on the top of the water, forcing it to run through the tube B. and the catheter C, until the water in the reservoir sinks to the level of the inner end of tube B. Then the elastic bulb being allowed to expand, it sucks the air out of the glass reservoir A, and thus forces the water in the bladder to rush through the catheter and fill the vacuum sweeping the stony fragments along, and dropping them into the orifice of the trap F. There is, however, just here an apparent difficulty, which Prof. Otis' description does not explain. As before said, when the apparatus is filled, only three ounces of water are put in, and of this one-half runs into the trap, leaving only an ounce and a half in the glass reservoir A. Of this ounce and a half, nearly or quite half an ounce must lie below the inner orifice of the tube B, so that only an ounce can be driven into the bladder, and the same quantity drawn out again. Now, the catheter and tube C, if of full size, will hold a full ounce. It follows that the one ounce of suction provided for will simply draw up from the bladder about enough water and gravel to fill the catheter and connecting tube,

Fig. 16.—Prof. Otis' Evacuator in working position.

and then, the current ceasing, the fragments will remain where they are, until the next compression of the bulb drives them all down again into the bladder. After considerable experience with evacuators of several sorts, I am more and more impressed with the superiority of those which produce the largest currents of the longest possible continuance. The churning of a single ounce of water up and down the catheter would obviously be a total failure in its results. There must be something in the apparatus or

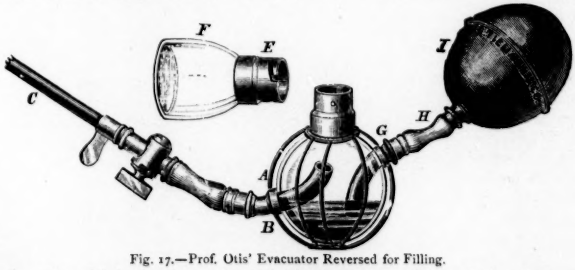

Fig. 17.—Prof. Otis' Evacuator Reversed for Filling.

in the method of using it, which the inventor has not explained in his article, or else it will disappoint his expectations.

Prof. Otis suggests that if one chooses he can dispense with the air in the bulb, and fill the whole machine with warm water. This seems to me a much better plan than the other, for it permits one to use the entire expansibility of the bulb I at each stroke, and thus, by producing currents of a longer duration, draw the fragments more thoroughly out of the catheter into the reservoir.

One of the agreeable surprises of litholapaxy is to note how little shock follows an operation of even an hour and a half duration, when performed in carbolized water. Generally the recovery of the patient is far more rapid, and the danger in adults far less than in lithotomy.

It is probable that in litholapaxy there is a little greater liability to leave behind minute fragments, than in lithotomy, but with the delicacy of search obtained by using the auditory sound, the difference is not great. After the first effects of the operation are over, the patient should be gently and repeatedly searched, and if any bits of calculus have remained, they are easily and quietly picked out in the presence of carbolized water, without much more disturbance than accompanies the passage of a catheter. For such purposes small instruments are always used, and there is no shock nor inflammation produced by these supplementary searches.

On the whole, it is safe to say that Prof. Bigelow's ideas have revolutionized the whole treatment of calculus in adults, leaving only a few peculiar cases proper for the use of the knife, but in children lithotomy will still be necessary in the majority of cases. Litholapaxy, however, is preferable even below puberty in a few cases, where the stone is quite small and the child is twelve or more years of age. In these cases of course smaller instruments must be used, but the danger of lithotomy before puberty is so slight that it leaves little need to desire any improvement in the methods of operating on young children.

No. 6 Sixteenth st., Chicago.

THE EFFECTS OF SANITATION UPON THE ORGANS OF VISION.

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It does not require the mind of a sage, nor the intellectual reasoning of a philosopher, to know that all effects have their causes; that disease is the cause of death, and that there is a cause for disease.

In speaking of the diseases of special organs from a sanitary platform, it is necessary first to make some general remarks. This becomes necessary especially when at least a part of those diseases are a secondary manifestation, due, however, to the same cause that produced the primary constitutional disturbance. Acting in this manner, the effect might become manifest through the system upon the kidneys, and afterward vision becomes impaired by the implication of the optic nerve and retina.

Medical science has made a grand march in the last decade. The unknown is becoming known. Many things that were buried in darkness and obscurity, now become visible when the light of science is concentrated upon them by means of the microscope. It has shown that epidemic, and even endemic and sporadic diseases, are produced frequently, if not generally, by some form of animalculæ. Then, this being the case, the question arises, What conditions are necessary for the production of these germs? If they can be discovered, then the next question is, Can they be destroyed or prevented from developing?

These questions bear the impression that it is more important to discover and remove the cause of disease, than it is to cure it after it has become manifest in the system.

Filth, in its various forms, is probably the chief factor in developing the germs of contagious diseases.

In decomposition of vegetable and animal matter, we have the effluvia arising from the decaying mass mingling with the oxygen of the air, which imparts vitality or life when submitted to the caloric rays of the sun, which rapidly converts it into carbonic acid gas, and in this is generated the germs. Their numbers are legion, and their size so small that, according to Zell, those contained in a single cup of putrid water would outnumber the population of the globe. These germs are transmitted from one place to another, either by the atmosphere or by fomites.

If the filth is located in cellars or subterranean passages, where there is no ventilation, then the effluvia arising from this process of putrescence, mingling with the confined atmosphere, produces the mephitic air which leaves disease and death in its wake.

The ancient Romans invoked the aid of this mephitic sibyl to ward off diseases, especially those of a malarious origin. But if the effluvia of decomposition gives birth to germs or poisonous gases, and they in turn produce disease, then it is evident that we will have to invoke the aid of antiseptics, disinfectants, germicides, and cleanliness.

It is not the intention of this article to speak of the general use or mode of applying these agents, except to a limited extent.

Ophthalmia neonatorum is frequently supposed to be due to a vaginal discharge existing at the time of the child's birth. This discharge may have been caused by contact with matter containing some of these germs. If so, then, as they multiply very rapidly, we will find large numbers of them in every drop of the purulent secretion. Some of this virus getting into the infant's eyes, will produce the disease. In order to prevent this, after the child's face has been carefully cleansed, the eyelids should be bathed with a solution of hydrarg. bichlor. gr. 1 to aqua oj., and a few drops allowed to pass into the eye. This, if properly used, will, in the majority of cases that have been exposed to this source of contagion, prevent the development of the disease.

Public hygiene in a country like this involves the enactment of certain laws, by means of which the safety of the community in general may be protected against the errors or the omissions of a few. It especially aims at the prevention of contagious or communicable diseases by the removal of avoidable causes. The people must be taught that a great many diseases can be avoided by resorting to the proper measures, and that knowing their duty and then neglecting to do it, they are responsible for the consequences.

Personal cleanliness and the avoidance of all excesses is the cardinal principal of health preservation.

Anything that would produce disease in one of the organs would, to that extent, be productive of inharmony. Anything that will prevent an organ from adding its portion to the general welfare of the system, interferes with the machinery of the economy. Not only that, but if an organ becomes diseased it not only does not add its *pro rata* for the maintenance of the system, but perverts the action of others. As the most perfect condition is produced by the united influence of all the organs acting in harmony, it is not only desirable that this state should be obtained, but maintained.

If the inhalation of the exhalations from decaying animal and vegetable material has a tendency to produce disease in any organ of the body, then it is detrimental to the system, and should, if possible, be prevented.

Filth, by accumulating upon the surface of the body, will prevent the normal function of the integument, and may be the cause of disease without pro-

ducing or developing microbes or animalculæ, but by compelling the system to retain mephitic products that should be cast off.

In tenement houses poverty and filth, apparently at least, go hand in hand. The children are unkempt and unwashed, and the exhalation from their bodies and clothes has a nauseating odor. The same delectable smell will sometimes greet the olfactories in every room of those buildings. Frequently this condition arises from carelessness and negligence.

We can conceive conditions where humanity is begrimed and saturated with dirt, and even filth, and not be able to remove or prevent it. Such a condition might exist especially in a prison.

But the ordinary dweller in a common tenement house has no excuse, but they are dirty and filthy, because they want to be so, or else they are unwilling or too indolent to test the efficacy of soap and water.

"As the twig is bent the tree is inclined," is an adage that is as old as the hills. As these tenement house children are reared in squalor and dirt, when they get older they do not depart from it, but follow in the footsteps of their parents. When an epidemic makes its appearance we find the largest number of cases and the greatest mortality in the filthy districts. Evidently then, there is a *something* in filth that invites disease, especially of the contagious epidemic form, to come in and take up its abode. I might also add that disease generally accepts the invitation.

In a given case a filthy neighborhood may be so poor that actual want of the necessities of life is an appreciable cause of disease. In another case the population may be so badly quartered in certain conditions, which by themselves would not be called unsanitary, yet may be so over-crowded in their apartments, or be living in such close-built houses, that this has to be taken as a cause that will produce disease.

A filthy neighborhood means an unsanitary condition; an unsanitary condition means a lowering of the powers of nature; a lowering of the powers of nature means less resistance against disease, and less resistance means a greater liability to contract any contagious malady.

This unsanitary depression not only places the system in the most favorable condition for the reception of the various diseases that wander around over the earth, but it engenders follicular hypertrophy of the conjunctiva. This condition may remain passive for an indefinite length of time, and may even disappear with favorable environments. But, as this is one of the products of a poor hygienic condition, it is not impropable to suppose that a large number of such persons are in this condition. As the fuel is already arranged, all that is necessary to have an outbreak of this disease is to apply the torch. Exposure, or a drop of a specific virus coming in contact with the conjunctiva of one of these eyes, will act as the torch to start the fires of inflammation that will spread from one person to another, until all that are susceptible will be attacked.

Children, under the same conditions, are even more liable to this disease than adults. This form of ophthalmia used to be the dread of armies, and the scourge of pauper schools, and houses of refuge.

It might be interesting to know whether the germs are transmitted from one person to another, and if so, if direct contact is absolutely neceessary.

The eye is an amphibious organ, part of the time immersed, so to speak, in a fluid, and then exposed to the atmosphere. Anything that will produce an irritation or inflammation of the conjunctiva not only increases the natural fluid secretion, but creates a new and abnormal one. This abnormal secretion is generally purulent in this form of ophthalmia. In this purulent discharge there are bacteria or germs. These are thrown into the atmosphere by evaporation from the eye-ball and lids, or by passing through the tear-channels into the nose, and are carried off during the acts of respiration. They then float around in the air, and if in ill-ventilated and poorly arranged apartments, they rapidly increase in number, so that it becomes an easy matter for some of them to come in contact with the eyes of other persons who may be present. If the eyes thus exposed have been prepared by the process already described, then the abundant crop of purulent ophthalmia will show that good seed was sown upon favorable soil.

Infants and children whose mothers have to leave home and work during the day, may suffer from disease simply from neglect and the want of proper management. An infant cannot take care of itself, and its natural tendency is to get dirty. If allowed to remain a sufficient length of time in this condition, the natural accumulation of foreign material upon the integrument not only weakens the powers of nature by closing up the avenues through which equilibrium of secretion and excretion is to be maintained, but it actually develops disease.

By closing the respiratory avenues of the skin, the system is compelled to retain mephitic products that should be cast off. These, by acting on the brain and nervous system, may produce a functional disturbance which will involve the accommodative apparatus. This may be followed by hypermetropia, and when the child gets old enough to use the eyes for regarding near objects, such as looking at letters, reading, etc., one eye will squint inwards, and as an ultimate result or effect, we have convergent strabismus or "cross-eyes."

Again, in filthy districts where the foul air which exists in alleys and streets can act with the greatest force on the inhabitants; such localities always show an increased mortality rate. The increase of mortality affects all ages, but especially the young. In a locality of this kind, if the ordinary diseases of childhood prevail, such as measles, scarlatina, etc., we find, first, that the mortality is increased, and, next, that the conjunctivitis of the former is more marked, the congestion greater, and more liable to produce inflammation or ulceration of the cornea. Chronic conjunctivitis or granulated eyelids are more apt to follow. In the latter class of cases, dullness of vision from uræmia, inflammation of the retina with a deposit of albumen, optic neuritic, and asthenopia, or a weak and irritable condition of the eyes, are among the consequences.

The organs of the body are better if they are exercised in a proper and judicious manner. Complete and continued idleness and relaxation begets disease. The eyes are no exception to this rule. Perfectly formed and normal eyes should perform their work without producing any unpleasant sensations. The best test is that we perform our work forgetting that we have organs of vision, This can very properly be taken as the guide by which to regulate the amount of work that they can perform. There is a very wide range in this respect, and what would not injure some eyes in the slightest degree, might produce fatal disease in others. Some who have good vision injure it by deliberate and rash usage, which is the result of over-confidence.

One person will say to another, "I have very strong eyes, and can look at the sun with them." He will demonstrate this to his companion by allowing the bright rays to pass directly into his eyes for a few seconds. However, he is liable to pay dearly for his experiment, as it is well known that a very bright light, whether it be direct from the sun, or the glare from a furnace, or reflected from snow, has a tendency to blunt the sensibility of the retina. Days, weeks, and months are sometimes required to restore a condition of impaired vision as the result of exposing the eyes to the direct rays of an intense light.

A Frenchman wrote a book with the title, "The Advantages of a Bad Constitution," in which he tried to prove that the tendency was to prolong life. There is at least reason in this seemingly rash statement, from the fact that having a delicate constitution, the owner would be very apt to banish all recklessness and excesses, and guard the already impaired body.

Many an old person who is blind might have preserved a fair amount of vision for the evening of their lives had they exercised the requisite care in the forenoon of their existence.

Distant vision in the normal eye is simply a sensation of passivity, while near vision means muscular exertion. If this is carried to the extent of producing fatigue or pain, then harm is likely to result, unless the proper amount of rest and relaxation are allowed for nature to reproduce a normal condition. In reading, or studying, or writing, it is best to occasionally look across the room or out of the window, and in this manner rest the eyes by relaxing the muscular tension. When a person is in deep thought the eyes are either closed or passively turned toward some object, but not in action. In this condition all of the organs except the brain are at rest. Democritus, one of the founders of the "atomic theory," is represented as being so intense in his thinking, that he put out his eyes, that he might not be diverted in his meditations.

One of the disadvantages of living in a city is that the eyes are constantly used for near objects, necessitating a continual tension upon the muscles, hence a tendency to become fatigued.

A little girl that had been born and reared in the city, was taken to the country for the first time, and was almost bewildered, and exclaimed, "Oh, mamma, I never knew there was so much sky."

For an overstrained and weakened eye, simply from excessive tension on the muscles, before any permanent change in the refraction has been produced, there is probably nothing that gives more relief and at the same time is more soothing than looking at nature as she exists in the valleys, woodlands and hills. Especially is this true in the spring or summer, as the natural green has a very pleasant and agreeable effect on the organ of vision that has been fatigued and weakened by overwork.

It is scarcely necessary for me to say, that asthenopia is frequently developed on account of the poor quality of type that is often used. Cheap literature, quite frequently, means poor type; poor type means blurred and imperfect letters, and blurred and imperfect letters strain the accommodation, fatigue the eyes, producing congestion and functional derangement, and this in turn may be followed by inflammation and structural change, with permanent impairment of vision. Von Græfe stated, that unless the type was changed, that Germany would become a nation of blind people. Previous to his death he avoided, as much as possible, reading literature that was printed with German letters.

In addition to poor type, reading with poor illumination is another cause of disease of the eyes. As an example of the two combined, we might refer to the ambitious American youth, who has purchased a 10 cent novel, with an old gold back, and a new gold narrative. You will find him in the evening, doubled up in the corner, reading by the light of a little lamp with a smoked chimney. In this cramped and unnatural position he reads the history of the deeds of the daring desperado, Wild Fire Texas Jack, and his romantic encounters and escapades with a whole tribe of cosmopolitan Indians. During the time that he is thus storing his mind with useful knowledge, he may also be laying the foundation for a parental bill with the oculist.

Then, in addition to the foregoing, we might add that of position. If a person is lying down, or in a stooping position, or with the chin down upon the breast, it is evident that he has assumed a position that is favorable for producing congestion.

Persons, who are sleepy, sometimes make an effort to read when tired nature objects. Then, to accomplish their purpose, they place their will power against a natural law. At the same time that they may succeed in performing the self-imposed task, if often enough repeated, it will end in the production of asthenopia.

A very common error, and one which the majority of us have committed, and probably will again, is that of reading while traveling upon the cars. The constant jarring keeps the paper moving to and fro, and this requires a constant and continued contraction and relaxation of the muscles of accommodation, and the probabilities are that we know of the consequences by experience. The eyes soon become fatigued, necessitating a cessation of the strain placed upon them. In these cases, at first, all that is required is rest, nature rapidly overcoming the temporary derangement or functional disturbance. However, we may, by a continuation of the effort, change

this condition of functional disturbance into one of active congestion or inflammation, and find permanent impairment of vision as the ultimatum. This condition is generally developed gradually. The eyes at first do not appear to be unfavorably influenced, but after a while symptoms of weakness appear, so that in a very short space of time, after the effort to read has been made, there is an increased secretion of tears. This is rapidly followed by pain and blurred images. If a reasonable amount of rest does not relieve the eyes, supposing that there is no inflammation existing, an examination in the majority of cases will reveal an error of refraction. This refractive error may have been produced simply as the result of straining and abusing the organs of vision. In order to restore the impaired vision thus produced, so that the eyes can be used without producing pain, or becoming fatigued, the lens that represents the amount of error will have to be used.

"We are here to-day and *yonder* to-morrow" is trite, but true. This statement embodies our existence in this world. It signifies *change*. Life means change; it means motion, and motion means life. Nature has a few marks by means of which she designates this condition. In youth we have the rosy dimples and sparkling eye, but as decade after decade of time sweeps over the world, Nature touches the locks in the temporal region with the wand of senility, and the hair becomes white.

After we have passed the meridian and start down the declivity of life, there is a change takes place in the eye. Some of the organs lose their pristine activity, and become more sluggish in their action. There is a preponderance of the earthy over the animal matter. Senile changes take place, so that the eye that could read ordinary print with ease at a distance of twelve or fourteen inches, can now do so no longer. The paper has to be placed farther and farther away, until the distance becomes so great that the image of the object that is formed upon the retina is so small that the impression that it makes cannot be recognized distinctly. This condition means a receding of the near point of vision, and is called presbyopia. It begins at about the twelfth year, but is not sufficiently developed to need correction, as a rule, before the fortieth or the fiftieth year.

When the near point has receded beyond a given distance, then the effort to read and write produces a chain of unpleasant symptoms. In a few moments the eyes experience a burning or stinging sensation. The tears are secreted more freely; the smarting sensation gives place to actual pain; there is a congestion of the vessels, the eyes become watery and red, and a blurred image is formed. By resting the eyes a few moments, and gently pressing upon, or bathing them with cold water, all these symptoms pass away. They rapidly return when the eyes are again used.

This is the natural consequence that is produced when the refractive power is too low; when the focal point of the lens is greater than the distance from that organ to the fovea centralis of the retina.

This condition is easily corrected by using a suitable lens. A great many people will not use glasses even when the evidence is manifest that they are needed. They may imagine that it indicates that they are getting old, or that they do not look well with those frames before their eyes, or that it would not do to wear them in their line of business, etc.

Then, again, some say, I do not want to use glasses, for when I commence using them, then I will have to continue to do so. A common error is that it is better to do without glasses as long as possible.

When presbyopia has developed sufficiently to need correction, then the time has arrived to commence using glasses. By so doing the eyes will remain stronger and vision clearer than in any other way. By following this method, sharp, clear and distinct vision is preserved. On the other hand, by constantly straining and congesting the eyes in trying to read or work, without glasses, tends to produce inflammation and asthenopia. The eyes become weak, suffused with tears, and irritable. They cannot be used for any kind of fine work without becoming painful.

After they have been abused in this manner, it is sometimes very difficult to get a pair of lenses that will give satisfaction. The lens first required is generally much stronger for an eye that has been strained in this manner. They have to be changed more frequently, and do not give as good results.

It is evident, then, that there is nothing gained by trying to use a presbyopic eye for reading, writing, or any kind of fine work, without the proper glasses.

Vision for distant objects does not undergo a change in the normal presbyope. They use their glasses to read, then take them off and see as well in the distance as ever.

With the eye that has been excessively strained and congested in trying to look at near objects, we frequently find does not see well in the distance.

Then we will refer to our cardinal principle, and claim that it is as applicable to the eye as a special organ as to the body, and say that if we wish to preserve our vision we must avoid all excesses.

Then, again, there are certain agents, such as alcohol and tobacco, that have a tendency to produce an amblyopic condition. When they are the cause, the derangement is developed in an insidious manner. The external appearance of the eyes remains unchanged. There are no visible symptoms of inflammation, and generally no pain. There is a gradual reduction in the visual power. Objects are not distinct, but appear to be enveloped in smoke, and present a hazy appearance.

This condition creeps on so unsuspectingly, that it is generally well developed before much attention is given to it. Either of these agents alone may cause the trouble. The two combined are much more liable to do so.

If, in addition to any of the foregoing states, you add an unsanitary condition, you simply enhance the power of the disease.

Mens sana in corpore sano is an adage probably as old as medicine itself, yet it is not *in rerum natura* for the various organs of the body to remain in a normal condition when we are surrounded by a mephitic atmoshere, and inhaling lethal germs. And finally, may we be permitted to add, that morality does not

exist so much in a blind observance of 'isms and 'pathies, and vague creeds, as it does in submitting to the dictates of nature, and following the precepts of health.

A PLEA IN BEHALF OF A MEDICAL AID FUND.

BY FREDERICK HORNER, M.D., OF VIRGINIA.

In proof that an urgent necessity exists for an effort to provide for a Medical Aid Fund, it may be stated that for some years past the attention of the profession has been especially directed to this subject, and the facts connected with the origin and history of this movement may be briefly narrated.

The Massachusetts Medical Benevolent Society recently held its 25th anniversary, and celebrated it by a dinner. The object of the society, it was stated, is to give financial aid to widows and orphans of medical men. The funds amount to $20,000, and each beneficiary receives $80 per annum. The Mutual Benefit Association of the physicians of Kentucky, Illinois and Indiana, embracing within its fellowship hundreds of our medical brethren, was the next organization of the kind undertaken. Dr. David Keller is deserving all praise for the interest which he has manifested in this successful enterprise. In 1876, under the auspices of the Philadelphia County Medical Society, the third auxiliary Aid Society was founded, and has been nobly sustained by Professor H. H. Smith and Drs. Benj. Lee and W. R. D. Blackwood. Ere long this society is expected to have a handsome and permanent fund, the profits of which promise to secure a respectable sum for distribution to the families of deceased members.

Dr. Benj. Lee, of Philadelphia, in a late report, says concerning this Aid Society: "It has been formed for the pnrpose of providing against the recurrence among the members of the Philadelphia County Medical Society of those sad cases in which medical men, after lives devoted unselfishly to the cause of science, have died leaving their widows and orphans dependent on the cold charities of the outside world. Our efforts will be by the steady growth of the funds derived from gifts and legacies, as well as from annual dues, to save such families of deceased members from penury and distress."

The profession in the City of New York has also undertaken a like philanthropic work, and have established on a firm basis the New York Physicians' Mutual Aid Association. Dr. James Anderson is the founder of this Association, which furnishes pecuniary aid, also, to its sick members in special cases of need out of the interest of the permanent fund. Dr. M. Blumenthal, the President, in a late report, says: "The Association stands upon a sound and safe foundation, and since its organization $27,000 have been distributed among the families of deceased members." He adds, "The amount of comfort conferred and griet and sorrow assuaged by this sum, surely no figures or words can adequately express."

The committee on the formation of the Aid Society of Virginia, made its report to the State Medical Society, and urges, "while every consideration is given by physicians to promote the public weal and health, there can be no excuse any longer for them to ignore the claims of the impoverished families of deceased brethren, and the committee is unable to recognize an objection to a trial of an experiment to raise funds to be applied for the relief of the destitute within our own medical household, and of brethren who furnish no exception to the accidents, financial distress and ills referable to the chances of human life."

At the thirty-third annual session of the American Medical Association, held at St. Paul, Minn., June 6, 1882, Vice-President P. O. Hooper, in the course of his address, said "he would also call attention to the propriety of the Association organizing a relief society for the benefit of the families of physicians left in destitute circumstances, and he thought a scheme of operation might be the means of accomplishing much good, and remove an ever-present anxiety from the life of many a struggling brother."

Abroad, especially in England and on the continent of Europe, for centuries past, ample, liberal and prompt provision has been made for disabled physicians and their families. On the occasion of the writer's acquaintance with Professor Alexander C. Simpson, of Edinburgh, and Drs. Charles I. Hare and Adams, of London, these gentlemen informed him that there exist in their respective cities societies well endowed, and ensuring to the needy member the amount of £60 sterling per annum. The London *Lancet* for March 17, 1883, noticed the annual meeting of the society for relief of widows and orphans of medical men, which met in the rooms of the Royal Medical and Chirurgical Society, President, Sir Geo. Barrons, Bart.; Dr. Johnson, Vice-President, elected in place of Sir Thomas Watson, deceased; 18 new members enrolled, and 9 had died. Total, 370 out of 4,500 members belonging to the British Medical Association. Sixty widows and five orphans were on the books; £2,871 were distributed during 1882; expenses, £190; the receipts available for grants, £3,061. Regret was expressed that so few medical men avail themselves of the benefits of the society, which allows £80 per annum to each widow. The editor of the *Lancet*, commenting on the effort to raise a medical benevolent fund, says: "Dr. B. W. Richardson was the moving spirit of the 1866 experiment. It is proposed to get at least 200 new members, and to raise a subscription of two guineas a year by members under 30 years of age. After the expiration of the first year, £1 a week will be allowed for 26 weeks, and 10 shillings a week for another 26 weeks in case of total disability to work. The President, Sir George Barrons, subscribed 10 guineas toward the fund. An additional medical sick fund has been raised in England, by which a physician when totally disabled receives sufficient sick pay to keep him going. It is proposed by this society that each medical man shall subscribe to this fund £2 2 shillings annually, and in case of illness from disease or accident he will, during his incapacity from attending to his professional duties, receive £10 a week. The *Lancet* also notices the annual meeting of the Central Society of the medical men of France.

This society is intended "not only to occupy itself, it is stated, in the general interests of the profession, but to afford succor to needy members and to their widows and children who may be left without any provision." According to the reports that were read and the speeches that were made, this society in Paris is in a most flourishing state, but at the same time the melancholy fact came out that, notwithstanding the revenue so justly acquired by some of the members of the profession in France, many of them live and die in almost abject poverty.

The *British Medical Journal*, holding the relation to the British Medical Association that the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION does to the Association in America, has strongly advocated the establishment of a Medical Benefit Society. A contributor to our JOURNAL, who resides in Washington City, in a late article says: "There is great need for such a society, every practitioner will readily acknowledge; and while we see insurance companies and aid societies working successfully for special purposes, it would be the part of wisdom, if not policy, for physicians to imitate such examples, and the American Medical Association, as it stands to-day, could best foster and ensure a widespread support and sphere of usefulness to such a project."

With the facts above presented, no one can fail to admit that both in the United States and abroad medical aid societies are not novelties, and need only further development to embrace the whole profession, and especially in the rural districts, where too often a meager support is obtained by practice for the maintenance of the families of physicians. In the country, indeed, the majority of medical gentlemen neglect, or are unable to incur the expense of, the insurance of their lives; while this class located in large and metropolitan cities, more fortunate, realize usually handsome incomes, and hold professorships, and do provide for their families. An aid society conducted by ourselves would meet the wants, at least, of all who will avail themselves of its advantages. Army and naval officers may not be directly interested, because of the pension which a liberal government dispenses to their families. Yet even these classes have lately sought to provide a larger fund to meet this want. As additional evidence that this scheme for the creation of a medical aid fund has the support of the most eminent and philanthropic members of our profession, the writer will venture to take the liberty to quote from their letters on the subject. The late Dr. John Hodgin, ex-President of the American Medical Association, says: "I shall at all times and on all occasions be pleased to do anything in my power to aid the widows and orphans of deceased members of our profession." Prof. Lewis Sayre says: "It is a noble object, and deserves the favorable consideration of every man in the profession. The plan has worked admirably in this city, and would be very good to model after." Prof. Nathan S. Davis says: "The object in view is a good one. Many years since I advocated such a plan, and bestowed upon the matter some thought."

Dr. Wendle, of Murfreesboro, Tenn., writes: "Right here in this town we have an instance of an excellent physician who, after forty years' practice, died, and his children are left penniless, and his widow's home was sold last week." Dr. Blackwood says: "In Philadelphia we are fully in accord with the effort to establish both a State and National Medical Aid Society. It only requires concentration to get the matter under way." Dr. G. B. Thornton, President of the Board of Health of Memphis, writes, "that subsequent to the fatal epidemic yellow fever in that city, had not the noble and generous physicians of the city of New York sent us money, many families of the twenty doctors who died here would have suffered deplorable want." Dr. James Anderson, Secretary of the New York Aid Society, says: "Our association has been a great comfort to many a widow, yea, and four of its members, one a professor and one who once drove two horses. Our permanent fund we seek to keep intact, and it has proved the salvation of our association." With these quotations, which might be multiplied well nigh *ad infinitum*, a brief opinion of the distinguished President of the American Medical Association, Dr. Austin Flint, Sr., may be added. He says: "There can be no objection to a plan for raising a medical aid fund, to be brought before the Association at its session in Washington city in May, and I sympathize in the benevolent purpose which is proposed."

Now, in conclusion, with reference to a plan to ensure its success, the best talent, the best business and most large-hearted men of the profession of the State and National Association, should be solicited to give their moral support and coöperation to such an undertaking. Various methods might be mentioned, all of which have been tested by the Aid Societies of Massachusetts, Pennsylvania, New York, and Kentucky successfully, and have proved to be cheaper, more secure, and more permanent than is accomplished by ordinary insurance companies. For example, let $1 be added to the annual assessment of the Fellows of the Association; a committee appointed by the President of five or seven members, who shall be authorized to prepare a constitution and by-laws, and shall hold in trust the fund, and when the amount is sufficiently large, a board of directors or a Section of benevolence on the death of a member shall determine the sum to be distributed to the individual. The Mutual Benefit Association of Physicians of Kentucky is managed by an able directory and by a finance committee, the members of which have gained the confidence of the profession and of the community.

The payment of $10 for membership and a $2 annual assessment secures to the family of a deceased brother $2,500, and to one sick $5 per week for serious illness or accident. The New York Mutual Aid Association requires the treasurer to deposit all monies received from assessments in a Trust Company, and when of sufficient amount, the accruing interest to be transferred to a savings bank to the credit of the Permanent Fund, which shall be created by contributions, donations, bequests, and all other monies not appropriated. As soon as the Permanent Fund shall amount to the sum of $10,000, aid may be rendered to the widow of a deceased member and his children

under 14 years of age out of the proceeds of said fund. The Medical Aid Society of Philadelphia allows $50 per annum to the widow, and also makes provision for the children until they become of age. The graded system may also be recommended, viz.: to have payments by assessment according to the relative age of the individual member, allowing such to be confined to three distinct classes, and assessments respectively of one, two and five dollars. The investment of all funds raised for this purpose in Government, or State bonds, or in a safe bank would be desirable.

Finally, is it not wiser for physicians to endeavor to raise a Medical Aid Fund, and thereby confer a blessing on the members of their own household than to commit such a fund to corporations which tax the policy-holder, and after all may fail; agents and officials of such corporations too often, as can be shown, appropriating the larger amount of the profits. At least recent statistics show that in 1861 thirty-six insurance companies existed in New York, and in 1881 only four of these companies were in existence. Let physicians be their own policy directors. This appeal is now made to the hundreds of humane physicians of the United States, who bear the mantle of the Good Physician. He failed not even on the cross to provide for the needy. During the present era members of the Masonic Order, of the several Christian churches, and even railroad operatives, have created a sustentation fund for the benefit of the sick and disabled. The younger members of the medical profession should not fail to apprehend the advantages of a like provision for themselves, their families, and medical brethren. Nor should it be considered utopian or premature, when the testimony of prominent physicians, and various medical communities have decided the question to be a *practical* and *urgent* one. With many it is a matter of surprise that during the long and eventful career of the American Medical Association, whose fellows are possessed of wealth and influence, and even shape for good the legislation of the country, and have annually conferred upon methods for the relief of mankind, and yet have failed to devise any plan of a benevolent character for the relief and support of their medical brethren. In the words of the gifted Atlee: "Our profession should ever seek along with the advancement of medical lore, to promote every system of benevolence and humanity." As was asserted on the occasion of a late meeting of the American Sanitary Association by Gen. John Eaton: "The legislatures of the several States of our Union leave no doubt that every child among us inherits the right to an education, the right to proper food, clothing, and shelter." Will physicians in this land longer practically deny these rights to the families of their brethren? among whom, it may be declared with truth, are scores of talented youths only requiring a small help, and destined it may be in future years to rival in fame such men as Livingstone, Kane, and Barnado, and may have reared to them in the hearts of a grateful posterity.

"Monumentum dere perennius
Regalique situ pyramidum altius."

MEDICAL PROGRESS.

ANATOMY AND PHYSIOLOGY.

THE SOUNDS OF DEGLUTITION.—The Berlin Medical Society has recently sustained an interesting discussion on this subject, which was brought before them by Dr. Ewald. He recalls the physiological statement that deglutition is divided into two distinct periods, the first being that in which, by the aid of the muscles of the base of the tongue superior constrictors of the pharnyx, mylo-hyoid, etc., the alimentary bolus is projected along the œsophogus to the cardiac orifice in less than one-tenth of a second; the second at the end of an appreciable time, consists of peristaltic movements of the œsophagus, which by degrees detaches the alimentary substances from the walls of the tube and expresses them into the cavity of the stomach through the cardiac orifice.

If the ear is applied over the stomach in the left hypochondrium, or at the xiphoid cartilage, two sounds are heard which correspond to these two periods just described. The first sound recalls that of water falling into a bottle, and corresponds to the projection of the liquid into the œsophageal space; the second is of the same character, but a coarser sound, like the *glou-glou* sound of fluids. This is produced by the liquid forcibly driven by the lower segment of the œsophagus through the cardiac orifice into the stomach.

The first sound is less constant than the second, is more marked in those who vomit easily when coughing, and constitutes a sign of weakness. In twelve cases of syphilis, the first sound was very well marked, leading to the suppositiou that the *cardia* was altered by the disease. Thus far these are the views of Meltzer. With regard to the cause of the second sound, Meltzer considers its presence to indicate a normal closure of the cardiac orifice, but Ewald notes that this second sound is not constant in its relations to the first as regards the time of its occurrence, and is simply the result of the peristaltic contractions of the stomach.

Ewald, after examining 500 cases of different diseases, considers that these sounds are very variable, both in health and in disease, and that they cannot be made of diagnostic value.

Fraenkel, by employing the American stethoscope, and placing the finger on the thyroid body to obtain an exact appreciation of the phenomena, supports Meltzer's theory thoroughly, and also determines the marked prominence of the first sound in cases of constitutional syphilis. In cases of paralysis of the œsophagus the second sound was constantly wanting.

Sublinski examined a large number of cases. In 40 out of 100 he could not get the first sound when he auscultated the stomach or the inferior segment of the œsophagus. He had examinied more than 60 syphilitics, and frequently established the two sounds. But the first was frequently absent as in healthy persons. This method promises little in diseases of the œsophagus, and the use of the sound and other means of differential diagnosis will always be required.

Eulenburg had observed these phenomena in a number of cases affected with nervous affections. In one case of progressive bulbar paralysis the first sound was frequently wanting, and the second was reinforced in a marked manner and the interval markedly lengthened to 9.20 seconds. In several cases of diphtheria and of amyotrophic paralysis the sounds were found to be normal.—*Gazette Hebdomadaire de Médicine et de Chirurgie.*

MATERIA MEDICA AND THERAPEUTICS.

DR. HASSALL'S INHALATION CHAMBER.—Dr. Arthur Hassall has an article in the *Lancet* entitled "My Inhalation Chamber," in which he describes a room at San Remo which has a cubic capacity of 1,170 feet, one door, one window, no fire-place, no chimney. The walls are washable, the floor tiled. It is warmed by a little hot air admitted through a grating in the center of the floor, from a calorifère placed in the basement of the house, the temperature being usually 68° F. The chief apparatus contained in the chamber consists of two chamber inhalers. No. 1, a portable arrangement of five layers of cotton fabric, is suspended from the ceiling some feet above the grating in the floor, and can be raised or lowered. This apparatus is charged with carbolic acid, 1,200 grains being the medium amount; he calculates that this will be vaporized at the rate of 100 grains per hour, under suitable conditions. The time of inhalation, commencing at first with half an hour, has varied from one to two hours daily. The amount actually inhaled is an indefinite quantity, modified by the chest capacity, the loss of material by escape through the crevices around the window and at the door, and the sensible deposition of carbolic acid on the walls of the chamber itself. Although mention is made of carbolic acid alone, a variety of disinfectants, stimulants, antispasmodics and sedatives can be used.

CHRYSOPHANIC ACID ADMINISTERED BY THE MOUTH AND HYPODERMICALLY IN THE TREATMENT OF SKIN DISEASES.—Dr. Stocquart, of Brussels, gives in the *Annales de Dermatologie et de Syphiligraphié* his experience with this drug in 61 cases of skin disease, viz.: Acne, 3; ecthyma, 5; eczema, 32; impetigo, 4; lichen, 4; pityriasis, 1; prurigo, 4; psoriasis, 5; urticaria, 3. In none of these cases was there any local treatment, even of the most simple kind; 56 were complete cures, 2 incomplete, 2 were cures with relapse, and 1 resisted all treatment, being a case of inveterate papular acne. The cases of acne, ecthyma and impetigo rapidly yielded to treatment, as also the cases of pityriasis and urticaria. In the cases of lichen and of prurigo the itching disappeared rapidly, and in the lichen cases before the eruption had completely disappeared. In one case of prurigo, however, the cure was slow, and only after continued large doses. In the 32 cases of eczema, 30 were complete cures. One case of chronic eczema of seven years' standing was not completely cured, and another of twelve years' standing, after being relieved, recurred and was again relieved. In the 5 cases of psoriasis there were 3 cures, 1 relieved, with relapse, and again relieved, and 1 which was markedly benefited.

The mode of administration of the drug was generally as a potion, mixed with water. In ordinary doses this is not disagreeable. In large doses of 20 to 30 centigrammes it forms a magma with the vehicle which is not pleasant to take. The dose for a child is 1 centigramme per day; for an adult 3 centigrammes per day. There are exceptions to this rule. In doses but little greater, symptoms of intolerance and gastro-intestinal irritation show themselves, with palpitation of the heart, vertigo, and cold rigors, followed by flushes of heat. In an adult case of eczema a dose of 2 centigrammes produced nausea, vomiting, and abundant stools, which lasted for three days. In a case of acne it required 8 centigrammes to produce nausea, and 10 centigrammes to cause vomiting and abundant stools. It does not seem to be necessary or desirable to progressively increase the dose, and children tolerate the drug with great facility.

The hypodermic use of this drug was made in 11 cases, viz.: Acne rosacea, 1; eczema, 3; lichen, 4; prurigo, 1; psoriasis, 1; urticaria, 1. It proved to be quite as efficacious when used in this way, and more rapid in its effects. Out of the 11 cases there were 9 cures, 1 amelioration of a case of acne rosacea, and 1 unaffected stubborn case of chronic eczema. The prurigo was cured in two days; the other affections in four days, except one case of chronic eczema, which took fifteen days for its relief. In four cases a single injection was all that was necessary; in the others only two injections were used. The injection is not painful, but there is a tendency to the formation of abscesses, with severe pain, even in doses of 1 milligramme in a gramme of water, which limits this mode of using it to an absolute necessity.

USE OF A SOLUTION OF CHLORAL AS A DISINFECTANT AND AS A TOPICAL APPLICATION IN WOUNDS OF THE MOUTH.—M. Perier, of the Hopital Saint Antoine, Paris, has for several years (*Journal de Méd. et de Chirurgie*) employed constantly an aqueous solution of chloral to combat buccal inflammations or to prevent the accidents which are consecutive to traumatic injuries affecting the mouth. He formerly used alcoholized water, but gave it up, as in order to have a sufficiently powerful action upon wounds, the water should contain a very large proportion of alcohol, which makes it more irritating than the solution of chloral. The latter, besides, possesses a true sedative property. If a superficial or deep wound, caused by accident or by surgical means, communicates with the cavity of the mouth, M. Perier prescribes washings and rinsings every two hours at least. Besides which a careful washing is insisted upon after each ingestion of solid or liquid food, as it is necessary to prevent putrescible material from remaining in contact with the denuded surface. If the wound is anfractuous an irrigator is used, with care not to apply any pressure. Several instances are cited to show the value of this mode of application, where after considerable loss of substance autoplasty has been facilitated and produced excellent results.

The buccal inflammation which accompanies the development of the wisdom teeth is greatly relieved by the washings and gargles with the solution of chloral. In the case of peripheral depots of pus for necroses which open at the same time on the skin and in the mouth, the washings and injections through the fistulæ diminish the inflammation and pain rapidly, and suppress the horrible odor which accompanies this species of suppuration. The irrigation is especially insisted upon after the patient has taken milk or bouillon. These two liquids are ordinarily considered to be inoffensive, but, on the contrary, the residue which they leave behind them is precisely that which is most favorable to rapid putrefaction.

M. Perier uses chloral also in other cases. It is very convenient in inflammations of the fingers and of the hand. He uses baths and compresses soaked in the chloral solution. The strength used in all is 1 part chloral to 100 of water. The compresses are made of one thickness of prepared cotton placed between two folds of tarlatan, over which is laid an impermeable rubber cloth to preserve the humidity as long as possible; the dressings being changed very seldom.

MEDICINE.

Albuminuria in Typhoid Fever.—Dr. Johannes Mygge (*Nordiskt Mediciniskt Arkiv.*) gives the result of his examination of 217 cases of typhoid fever in the hospital at Copenhagen. In a third of these cases the urine was examined every two or three days, until death or convalescence. The examination for albumen was made simultaneously by heat and nitric acid (reaction of Heller). He arrived at the following conclusions:

1. In fifty-two (out of seventy-two) of these patients, the urine contained an appreciable quantity of albumen; in nine there was but a trace; and in eleven the result was negative.

2. The albuminuria appeared ordinarily before the end of the second week of the disease; in three cases it was present on the fourth day.

3. The albuminuria was transitory (one to three days) in sixteen cases; in thirty-six it continued for from five to eighteen days, except in several lethal cases, where it was not observed for more than two or three days; and in some other cases where it was in relation with cystitis or cysto-pyelitis, and continued for 110 days.

4. Of the twenty-six patients suffering from a considerable and persistent albuminuria, ten died, while of the remaining forty-six none died.

5. Chronic Bright's disease, as a sequence to typhoid fever, was not noted in any of the 217 patients.

6. Of the patients affected with albuminuria, more than half suffered from nephritis, as shown by the objective and subjective symptoms furnished by the urinary passages; in the greater part of those remaining the albuminuria was principally a symptom of a cystitis or cysto-pyelitis.

7. Of the eighteen patients giving evident clinical symptoms of a renal affection, ten died and eight were cured. The symptomatology in these cases did not present the characteristic clinical appearance which, according to Amat and others, constitutes the renal form of typhoid fever, although in two of the patients the symptoms of the renal affection were so marked as to mask the principal disease.

8. The excretion of urea did not diminish in a constant ratio, but the variations observed so frequently in the lethal cases could not be attributed to the accumulation of urea in the blood.

9. It would appear from the observations of other authors taken with these, that an organic renal affection and not a functional derangement, is generally the cause of albuminuria, and that this affection is most generally a parenchymatous nephritis, but that it produces from time to time an alteration in the cellular matrix.

10. When there are evident symptoms of nephritis present, the treatment requires great care in giving cold baths. The baths to commence with, should generally be of a temperature from 79° to 75,° and descend gradually to baths of a temperature of 68.° As strong doses of quinine sometimes produce a collapse, this agent must also be administered with caution.

A Case of Actinomycosis.—Mr. W. Knight Treves, in the *Lancet*, gives the first description of a case of this disease in the country. It occurred in a man 45 years of age, a brick burner, and apparently suffering from a scrofulous affection of the glands of the neck. His illness began 16 months before his admission with inflammation about the neck and angle of the jaw. A lump by the angle of the jaw which followed the inflammation, was incised. Subsequently, other swellings formed. When first seen he was in fair general health and well nourished. Over the angle of the jaw and in the posterior triangle of the neck, were three ulcerated and fungating surfaces, those by the angle of the jaw being about one inch, and that in the posterior triangle about two inches in diameter. There were tumors over the collar bone, the second rib and the fourth costal cartilage near the sternum, each of which was in a direct line, and had followed in regular order the one described as existing in the posterior triangle. These tumors resemble each other in appearance. They are smooth and evenly formed, and are in shape as nearly as possible half a sphere; the upper one is two inches in diameter, the lower one an inch, and the middle one intermediate in size. They have an elastic, semi-fluctuating feel; the skin over the upper one is thin, red, and evidently about to give way; the skin of the middle one is also discolored, that of the lowest is normal. To the right and left of these tumors are two nodules about the size of a marble, apparently the same thing in process of formation. The discharge was thin and serous, and contained minute yellowish masses, and disintegrated tissues, and had a peculiar offensive and sour smell. These tumors broke down in the course of four

months with gradual loss of strength, and formation of lumps on the other side of the neck and in the axilla. Not being like scrofula or any familiar form of new growth, the diagnosis of actinomycosis was made, which was confirmed by the discovery, under the microscope, of bodies which resemble the fungus peculiar to this disease.

OPHTHALMOLOGY AND OTOLOGY.

INFLUENCE OF THE SEXUAL ORGANS ON THE EYE.—Dr. C. E. Fitzgerald, of Dublin, in the last volume of *Transactions of the Ophthalmological Society of the United Kingdom*, records briefly five cases in which he establishes a distinct relation between disorders of the sexual organs and a diseased condition of the eyes. His first case was one of suppression of the menses, followed by an intense neuro-retinitis, with rapid recovery on the reappearance of the menses. The second was that of a case of disseminated choroiditis, with floating opacities in the vitreous. The menses were very excessive, and she was found to have multiple fibroid tumors of the uterus. The third was a case that at first presented only a slight haziness of one of the optic discs and pallor of both. The impairment of vision was very considerable, and there was a remarkable dilatation of both pupils, though they responded to the action of light; gradually, but steadily, the vision began to deteriorate, and atrophy of both optic nerves declared itself. Examination by a gynæcologist resulted in evidences of masturbation, which she admitted having practised for two years. Complete atrophy of both optic nerves subsequently ensued. The fourth case developed asthenopic symptoms, with a hyperæmic disk and marginal haziness. Masturbation was also diagnosticated in this case. The connection between the two showing itself curiously, a rather powerful caustic was applied to the vagina, making it very tender, and during this time (for some days) there was a marked improvement in the eyesight. This patient had also enlargement of the uterus and left ovary. The fifth case is simply referred to without any details, except that it is one of masturbation and suffering from marked neurasthenia.

INFLUENCE OF THE SEXUAL ORGANS ON THE EAR.—In the *Monatsschrift für Ohrenheilkunde* is an article by Weber Siel on this subject. The affections of the sexual organs of the female, and even the physiological accomplishment of their principal functions produce a marked effect on diseases of the ear. When pregnancy, flexions of the uterus, etc., occur in the course of ear disease, the progress and character of the latter are markedly modified. A simple catarrhal otitis, which is often insignificant, may become complicated with considerable disturbance of the nervous and circulatory systems, and the treatment of the ear disease becomes useless as long as the abnormal condition of the reproductive organs is maintained. When that is relieved, the affection of the ear is healed in turn, and frequently without treatment.

When an aggravation of deafness and of morbid sounds appear to be connected with a peculiar condition of the genital organs, then, and then only, the application of electricity will cause marked pain at the last dorsal and first lumbar vertebræ, when the sponge, covering the electrode, is there applied to complete a circuit in which the other pole is introduced in the Eustachian tube, so as to reach or pass its isthmus. This effect is constant and shows itself even with a feeble continued current of 5 to 8 small elements of Leclanché. One peculiar fact is noticed in this connection, and that is, whilst this pain increases in proportion to the prolonging of the contact of the electrode, the buzzing, vertigo, and other disturbances of the ear disappear completely, or diminish very markedly. In cases that are not of too long standing, audition returns almost to the normal state, and the amelioration of all the symptoms continues for several hours. In one case, where hearing had been difficult for a year past, and attributed to a diphtheritic affection, the continued moderate buzzing in the ears became extremely intensified with painful menstruation and ovarian hyperæsthesia. The deafness was correspondingly increased, and the patient suffered from vibratory shocks to the tympanum. Among all the means employed to relieve this condition only one was beneficial, that of putting ice over the region of the diseased ovary.

The influence of sexual excitement upon diseases of the ear is particularly manifested in cases of onanism. In the case of a young man suffering from chronic otitis, with a purulent discharge, perforation of the tympanum and intratympanic granulations, who was otherwise in perfect health, the ear affection became almost entirely relieved, when suddenly the symptoms became aggravated, and the remedies were of no benefit; the change in the general condition awakened a suspicion of masturbation, which was acknowledged, and on its being stopped an amelioration in the symptoms took place.—*Annales des maladies del'oreille. Jour. de Méd. et de Chirurgie.*

THE DIAGNOSTIC VALUE OF THE BACILLUS TUBERCULOSIS.—Dr. Austin Flint, at a meeting of the New York Medical and Surgical Society, stated that he had made this question a subject of clinical study; and, so far as his experience had gone, it confirms the value of the presence of the bacilli in the sputa as positive proof of phthisis, their absence being of more or less value in the exclusion of that disease, and the importance of their comparative abundance and scarcity as bearing on the question as to whether the disease was or was not actively progressing.—*Maryland Medical Journal.*

SANITARY COUNCIL OF THE MISSISSIPPI VALLEY.—The sixth annual meeting of this organization will be held in the city of Memphis, Tenn., on Friday, March 21, 1884.

PROFESSOR JOHN C. DALTON has been elected President of the College of Physicians and Surgeons of New York.

THE

Journal of American Medical Association.

PUBLISHED WEEKLY.

THE EDITOR of this JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information, should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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Address

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 65 RANDOLPH STREET,
CHICAGO, ILLINOIS.

SATURDAY, MARCH 15, 1884.

THE AMERICAN MEDICAL ASSOCIATION.—Less than two months remain before the time of the next annual meeting of our national medical organization, and the inquiry arises how far all the parties interested have completed whatever work they had intended for that occasion? That the local Committee of Arrangements have their plans matured, and all needful preparations made for a most pleasant and profitable meeting, we are well assured. But have all those who intend to present papers or make reports, either in the Sections or in the general sessions of the Association, duly notified the Chairman of the Committee of Arrangements of the title and length of their papers or reports? If not, they should do this without delay. The by-laws require the officers of the several Sections to make similar reports to the Committee of Arrangements concerning all papers or reports coming to their knowledge, at least one month prior to the time for the next meeting. If individuals and officers of Sections will do this promptly, it will enable the local committee to make the printed programme of work for the coming meeting much more complete than it has been heretofore, and the practical results will be correspondingly more satisfactory and profitable. The columns of the JOURNAL are open for the publication of any notices concerning the arrangements for the next meeting that may be desired.

THE CHOLERA BACILLUS.—Dr. Koch, in his fifth and most recent report concerning the doings of his commission for investigating the nature of epidemic cholera, states that the same bacilli were found in the intestines of those examined after death from cholera in Calcutta, as were found in Egypt; while in eight bodies examined after death from other diseases, no bacilli presenting the same characteristics were found, thereby strengthening the inference that they were peculiar to the cholera.

NEW YORK STATE MEDICAL ASSOCIATION.—The new State medical society with this title was organized in Albany, New York, February 6, 1884. A brief, but excellent plan of organization was adopted, prefaced by the following resolution:

"*Resolved*, That the objects of this Association shall be the cultivation and advancement of the science of medicine."

The ninth item in the plan of Organization is as follows:

"9th. The Code of Ethics, which shall form an integral part of the by-laws of this Association, shall be as follows: The same as that adopted by the American Medical Association."

The following officers were elected:

President, Dr. H. D. Didima, of Syracuse, Onondaga Co. 3d District.

Vice-Presidents: 1st District, Dr. J. M. Crawe, of Jefferson Co.

2nd District, Dr. T. B. Reynolds, of Saratoga Co.

4th District, Dr. B. L. Hovey, of Monroe Co.

5th District, Dr. N. C. Husted, of Westchester Co.

Recording Secretary, Dr. Caleb Green, of Homer, Cortland Co.

Corresponding Secretary, Dr. E. D. Ferguson, of Troy, Renssalær Co.

Treasurer, Dr. John H. Hinton, of New York City and Co.

Councillors: 1st District, Drs. John P. Gray, of Oneida Co., and Conant Sawyer, of Essex Co.

2nd District, Drs. J. W. Moore, of Albany Co., and Thomas Wilson, of Columbia Co.

3d District, Drs. Frederick Hyde, of Cortland Co., and Ely Van de Warker, of Onondaga Co.

4th District, Drs. E. M. Moore, of Monroe Co., and M. W. Townsend, of Genesee Co.

5th District, Drs. E. R. Squibb, of Kings Co., and A. Flint, Jr., of New York.

From the State at large, Dr. J. W. S. Gouley, of New York.

One hundred and sixty-eight members were present and signed the plan of organization.

The Association adjourned to meet in the city of New York on the third Tuesday in November, 1884; having authorized the Board of Councillors to appoint the delegates to the next meeting of the American Medical Association.

EDUCATIONAL QUALIFICATION FOR COMMENCING THE STUDY OF MEDICINE.—One of the most important and encouraging signs of the times, is the increased attention given to the general education of those proposing to study medicine. A considerable number of local, and some of the State, medical societies have adopted recently regulations which, if faithfully executed by their members, will do very much to practically elevate the character and usefulness of the profession, and in a direction where it is most needed. That part of the second resolution in the following series embraced within quotation marks was adopted by the Medical Society of the State of Pennsylvania at the annual meeting in May, 1883; and the whole series were adopted by the Trumbull County (Ohio), Medical Society at its regular meeting, January 31, 1884, as follows:

Resolved, 1.—That this Medical Society shall annually elect a board of Medical Examiners, to consist of three members, whose duty it shall be to examine applicants for admission to the study of medicine.

Resolved, 2.—All applicants for admission as students of medicine under the tuition of members of this Society shall present themselves before the Board of Medical Examiners and satisfactorily pass examination in the following requirements:

"I.—A written statement, previously prepared, setting forth the candidate's course of study.
II.—An essay.
III.—Writing from dictation.
IV.—Spelling—Oral and Written.
V.—Reading.
VI.—Geography—Descriptive, Physical.
VII.—Political Economy.
VIII.—History—Ancient, Modern.
IX.—Geology.
X.—Botany.
XI.—Chemistry.
XII.—Natural Philosophy.
XIII.—Mathematics—Arithmetic complete; Algebra, through quadratic equations; Geometry, through plane geometry.
XIV.—Languages—English, standard school edition of
English Grammar;
Latin, Cæsar's Com., 4; Virgil, 4; Cicero's Orations, 2;
Greek, the Reader; Gospels; Xenophon's Anabasis, 2."

Candidates for examination may elect in French, Keetle's Collegiate Course in French, Composition, Translation and Reading, and Lacomb's History of the French People, instead of Cæsar's Com., Virgil and Cicero's Orations; and in German, Whitney's German Grammar, Composition, Translation and Reading, Schiller's Willheim Tell and Gœthe's Faust, instead of the Greek Reader, Gospels and Xenophon's Anabasis, but such elementary knowledge of Latin and Greek will be required as to enable the candidate to intelligently comprehend the etymology of medical terms derived therefrom.

Resolved, 3.—No member of this Society shall receive any person as a student of medicine unless he present a favorable certificate from the Board of Med. Examiners.

Resolved, 4.—The time of study required by members of this Society shall be five (5) years including lectures.

Resolved, 5.—Members of this Society shall recommend their students to attend only such medical colleges as either require an examination for admission similar to the one required by this Society, or make the full three-years' graded course of study obligatory for graduation therefrom, and otherwise endeavor to elevate the standard of medical education.

Resolved, 6.—That this Society requests the Ohio State Medical Society to adopt the foregoing schedule of requirements and to use its influence to secure legislation making the same obligatory upon persons entering their names as students of medicine in the State of Ohio.

Resolved, 7.—That these resolutions be printed and a copy sent to each Medical Society in this State with the request that they early report their action thereon.

CORRECTION.

EDITOR OF THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

I am informed by my friend Dr. Mundé, that I was mistaken in attributing to him two deaths following the operation of trachelorraphy in my article on that subject published in your journal February 23 last. His only death out of 125 cases occurred two weeks after he operated from septic peritonitis. I must have seen it mentioned in two different journals and thus fallen into the error committed.

I take pleasure in making the correction..

Very truly yours,

JOSEPH TABOR JOHNSON, M.D.

916 Farragut Square, Washington, D. C.

SOCIETY PROCEEDINGS.

CHICAGO MEDICAL SOCIETY—REGULAR SEMI-MONTHLY MEETING OF MARCH 3 1884.

The large attendance was noted and the session was an interesting one. Two important topics were discussed.

The first was a rhetorical treatise read by Dr. Charles E. Webster on "Pott's Disease as Illustrating the Principles of Early Diagnosis." It contained much original matter from which we make the following extracts:

Mr. Chairman and Members of the Society:

Perhaps I, more than others, can appreciate the importance of early diagnosis in the disease to be considered this evening, and as I walk the streets I am well assured by many living proofs that in the past there has been negligence in this regard.

The busy general practitioner, with his mind harrassed by a thousand cares, is liable to overlook the critical condition of some fretful, sickly child until the golden opportunity is lost, and he is burdened with the perpetual curse of an ineradicable deformity.

In order to present a paper of sufficient scope to be of general interest, I have arranged the following notes on the diagnosis of Pott's disease, which for the most part are compiled from standard author's.

If this paper succeeds in awakening sluggish memories, and thus some child is saved by early treatment from life long misfortune, it will have well fulfilled its purpose. The treatment of a case without a diagnosis is like waging war without a fortified base of operations. It can be done, and successfully, too, but it is not the highest refinement of art by any means. The most skillful physician, like the best trained general, may be forced into action without time for intrenchment, and if the odds are not too great against him he may win the day. Uneducated doctors, like untaught savages, kill, take captive, and are victorious. The one protects his nakedness with a flimsy shield, and the other his ignorance with a fanciful diagnosis. But neither the success in emergency of the expert, or the prosperity of the quack can justify departure in ordinary cases from the common course of procedure. Therefore it may be assumed that the recognition of the disease treated is the first requisite to successful practice.

Each disease has an individuality of its own, which is preserved through all its varieties and amid all its complexity of symptoms. Were this not the fact, scientific medicine would be impossible, for classification is the first necessity of exact science, and the identification of species is the first requisite to classification. Among diseases, species may be ill-defined, may run into each other by innumerable varieties, or a particular case may present some startling anomaly, but strongly marked individual differences are not inconsistent with a specific resemblance, and the most hazy nebula has as real an entity as the most sharply defined planet.

Admitting the entity of a given disease, the question arises, in what does that entity consist? It is like the individuality of a face. Some faces have a characteristic feature, a nose, an eyebrow, a chin that is characteristic, and that face is remembered by that feature. So certain diseases have pathognomonic symptoms; as the periodicity of the attack in intermittent fever, and such diseases can be diagnosticated by their pathognomonic symptoms. In general, faces are remembered not by a process of analysis, not by their individual features, but as single units of cognition. You may know a person intimately, but cannot tell the exact shade of his hair or eyes, the shape of his nose, or the cut of his beard. Let him shave, let time furrow his face with wrinkles, and pull out half his fading hair, you will still recognize him, though not a feature, but has suffered some appreciable change. It is the same with most diseases. It is often said of such and such a doctor, he has a peculiar knack of diagnosis. In what does his peculiar excellence lie? He is old and little educated in the schools, his sight is dim, his hearing dull, he cannot appreciate fine points of auscultation and percussion. The Faradaic current is beyond his ken; he can hardly assign a reasonable cause for a single symptom, but he unconsciously coördinates those symptoms that he observes into a single unit of consciousness, giving each feature its due prominence in the picture drawn, and by taking a telescopic view of the case, and by comparing this with similar pictures of other cases he has seen, he gives his diagnosis; his view is broad, he neglects much detail, but he sees the case as a whole. In general practice it is this telescopic power of the mind that makes a diagnostician. There is more to diagnosis than this, however.

In common life recognition of an individual is sufficient. In a court of law identification becomes necessary. In ordinary practice a snap diagnosis may be sufficient. In the scientific study of disease, in commencing treatment in a fatal or chronic malady, or in a formal consultation, an exact diagnosis is necessary. This may be reached by one of two methods, either directly, by comparing the symptoms of the case with the described symptoms of the disease, or indirectly, by the differential method, considering all possible maladies that might exist in the case, and eliminating them singly by the direct method, giving the preference to the residual disease. To illustrate these principles, let us consider the early recognition of Pott's Disease.

A glance at the patient may be sufficient for the provisional or snap diagnosis. You see a sickly child with an anxious expression of face, moving cautiously, seeking support from external objects, and carrying its trunk erect. Throw some object on the floor for the child to pick up. It stoops by flexing the legs, but still carries the body erect and steady, as though the spine was made of glass, and it was afraid of breaking it. The seeking of support, and carefulness respecting jar or strain of the spine, are the most distinctive features, and may be variously modified according to the age of the patient, the location and acuteness of the inflammation, and other circumstances of the case. With the first glance you have recognized spinal caries, but in so serious a matter

an opinion should not be given until the exact diagnosis is reached, which necessitates a history of the illness and a thorough examination. If unwilling to assume the responsibility, or unable from press of business to take the trouble, send the case to one who will, for you have before you for treatment a patient destined to live in spite of the grossest negligence, but whose future happiness and usefulness alike depend upon the care and fidelity of some one who for years shall enforce those simple rules of life, and adapt with care and accuracy the appliances necessary. * * * * I can well assure you, gentlemen, that highway robbery is a much more honorable mode of obtaining wealth, than by careless diagnosis, procrastinating measures, or insufficient treatment, to rob a child of the slight chance of maintaining that normal bodily symmetry, which is a prime requisite for reaching his highest physical, mental and moral development.

The history of the case will vary according to the varieties of the disease. In this review of the subject it is not my intention to give a classification of these varieties, therefore it will suffice to mention all the symptoms likely to occur, premising that the absence of symptoms, or the inversion of their order, does not preclude the possibility of spinal caries. (The balance of Dr. Webster's paper was ably condensed from the best writers, but would occupy too much space. We give place, however, to his tabulated statement of differential diagnosis as follows):

TABLE FOR THE DIFFERENTIATION OF POTT'S DISEASE.

	Pott's Disease.	Strain or Cellulitis.	Hysterical Spine.	Muscular Rheumatism.	Coxarum Morbus.
Prodromic stage	May be months in duration.	Absent.	Absent.	Absent.	Months in duration.
Motions and attitudes	Suggest anxiety to keep the back from hurt.	Show a stiff back.	Natural.	Not characteristic.	Suggest trouble in one leg.
Pain intermittent	Remote from spine.	From motion with local tenderness.	Very sensitive at a few points to a light touch.	Not local, at one point.	In leg.
Pain constant	In the spine increased by pressure.	Increased by pressure.	Patient writhing in pain.	Motion painful.	In leg.
Stiffness	Local.	Local.	Absent.	Absent.	Of hip.
Jar and pressure	Aggravate symptoms. Relieves symptoms.	No effect	Give varying results.	Negative.	Aggravate symptoms. Relieves symptoms.
Extension		No effect.	No effect.	Negative.	Lengthening of leg.
Early deformity	Angular.	Absent.	Absent.	Negative.	Absent.
Paraplegia	After deformity.	Absent.	Hysterical.	Negative.	From abscess.
Tumor	From abscess.	From abscess.	Absent.	Negative.	

Sacro-Iliac Disease.—Resembles hip disease.

Torticollis.—If from cervical caries the patient supports the head with hand. Palpation detects thickening and tenderness of vertebra.

Superficial Caries.—Constitutional or traumatic causes, abscess, no deformity.

Aneurism of Aorta.—Deformity slight, not angular, signs of aneurism.

Disease of Kidney.—Differentiate by the urine.

Lateral Curvature.—Deformity not angular; no stiffness.

Rachitis.—Deformity not angular; affects other portions than the spine.

Muscular Weakness.—Deformity obliterated by lying down.

Hernia.—Sudden disappearance of tumor, with absence of spinal symptoms.

Paraplegia.—Without deformity may be ascribed to Pott's Disease if there are spinal symptoms and no other assignable cause.

Diseases of Childhood.—With a long prodromal stage are to be differentiated by the concomitant symptoms.

Thus, a prodromal period, or period of incubation, is to be expected during this stage, which may date from some sickness or injury, or may arise without any assignable cause, and be of several months' duration. The patient shows an indifference to his ordinary amusements, and an unnatural fretfulness; he may become awkward in his movements, stumbling in his gait, or assume unlikely attitudes. There may be constitutional symptoms, as loss of appetite, anæmia, and a rise of temperature. There may be nervous symptoms suggestive of paralysis, as weakness, numbness, or tingling sensations in the lower extremities, with irritability of the bladder. If the disease is high in the column, gastric irritation, with a sensation of constriction of the chest. If upper cervical, difficult deglutition, choreaic movements of muscles of the neck, numbness of the arms, and laryngeal cough, or a choking sensation. Pain is one of the most unreliable of all the symptoms. It is generally located anywhere rather than at the seat of the disease, and many patients are entirely free from it. It is thought to be caused by the irritation of the spinal nerves, at the point of their exit from the foramina, and is referred to the ultimate termination of those nerves. When it occurs it may be constant if local, or intermittent if remote from the spine, and be increased by fatigue or sudden jar. Acute pain is suggestive of a suppurative inflammation, while a dull ache is more characteristic of dry caries. The location of the pain indicates the location of the disease. If thoracic, the disease is cervical. If in the abdomen and lower part of the thorax, the disease is thoracic; while if through the thighs, the disease is lumbar. A satisfactory history of the case having been taken, the patient is to be stripped and inspected. Flexion of the spine is avoided, and a constant effort made by the patient to support himself; he leans upon the furniture, rests his hands on his thighs, or lies across some object; his movements are constrained, in order to avoid jar; he shuffles his gait. From reflex muscular spasm there may be a partial flexure of the thighs, and a local stiffening in the portion of the spine affected. Torticollis may occur; the head may be thrown back and the shoulders raised; the respiration may be grunting in character, with limited motion of some of the ribs. The first evidence of the location of the disease visible to the eye may be a slight flattening of the normal curves of the spine, with stiffening of the affected part, an indication of little value in young children when the curves are not developed. There may be slight bulging, or a slight lateral angle in the line of the spinous processes at the diseased point, and finally, as the commencement of the deformity, there is the forma-

tion of a knuckle, produced by the tilting up of the spine of the vertebra whose body is most eroded. Follow the inspection by a physical examination to establish the diagnosis and locate the disease. Let the patient jump down from a slight elevation, as a low stool. This concussion may produce a cry of pain, a slight confusion of ideas, the child looking surprised, or even a fall.

Another method of producing the same result is to press down on the head and shoulders, producing a cry and muscular spasm; however, these are both rather dangerous experiments; rubbing the back briskly with the knuckles makes the vertebral spine stand out in red spots, this may assist in detecting any displacement; pain may be produced at the point of disease by percussion, firm pressure, compression of the chest, crowding the heads of the ribs against the diseased vertebra, a piece of ice, or a thimbleful of hot water passed down the back, and lastly by lateral flexion of the spine, the patient lying on his face and the body being grasped by the pelvis and shoulders. If, with the patient standing erect, the palm of the hand be placed against the suspected region and then the spine bent in various directions, any local stiffening can be detected, the neighboring healthy parts being felt to move; the heat of the inflammation can sometimes be detected by the hand or by the surface thermometer. There may also be slight diffuse swelling. If the patient has pain of any sort, impeded respiration, or any uncomfortable sensation, lay him across the knees, on a table, or place him in a spinal swing and make firm gentle extension or partial suspension, observe if his symptoms are relieved. If he gives a sigh of relief and breathes freely while there is a cessation of his pain, and if the reverse of these maneuvers, by pressing the diseased bones more closely together, aggravate his symptoms, the diagnosis may be considered as fully established and a plan of treatment adopted. There are cases where the first symptom noticed, is the knuckle of the commencing deformity, and others where paraplegia or abscess may occur without deformity. In obscure cases where the direct diagnosis is difficult, or in any case where especial accuracy is desired, the table for differential diagnosis will be of service. Errors in case of some of the diseases mentioned are much too common, and an occasional reference to such a table, though it be far from exhaustive, will be a valuable aid to the memory. Theories of treatment and facts of general scienee can be found in text-books. They may be held in memory, or when needed, sought by reference, as is most convenient, but it is the duty of the student ere he becomes a practitioner, to become at least tolerably expert in the snap diagnosis of common diseases, if not invincible in exact diagnosis. How are these powers to be acquired? By only one process, *i. e.*, by the study of disease, by noting the gross appearance of disease as well as its most minute features; by clinical practice supplemented by careful reading, and by acquiring the greatest possible proficiency in all those methods of physical exploration without which scientific medicine would be an impossibility. Many a young graduate enters the sick room of his first patient with trembling and abject fear. He has learned to auscultate and percuss with an instructor at his elbow, and to listen by the bedside in the hospital to an exact description of a patient's symptoms. But to interrogate and examine a patient with a view to identifying his disease and relieving his sufferings is a thing to him as strange as were mounted horsemen to the American aborigines. At the commencement of one's course, if he could learn the practical duties of a nurse and accustom himself to attendance on the sick, he would have done far better preliminary work than if he had mastered every department of natural science. For then the clinic would be real practice, the didactic lecture an illumination of intelligible pictures and not a weird phantasmagoria of the unreal. While the work of pathology would become the survey of old battlefields, the study of the historic part which is to fit him for coming victories. In conclusion the writer quoted his honored teacher in anatomy, Dr. Oliver Wendell Holmes, who from the eminence he had attained by a life of philosophical labor, sends down the clew to guide the student groping among the underbrush of routine study. "I would not undervalue the branch I teach. I recognize the incidental importance of all the subsidiary branches which form a part of the curriculum of this and other schools; do full justice to them or you will not probably do justice to your more immediately practical studies, but your hardest study must be at the bedside. To go hastily from the library of old books and the laboratory of new experiments to the bedside of disease is imitating the presumption of those rash profligates who, as Thomas Boston says, think they can take a leap out of Delilah's lap into Abraham's bosom."

In the discussion which followed, a number participated. Among those noted were Dr. W. E. Clarke, who expressed his gratification at hearing the paper, and thought the many learned points therein contained should be of much interest to the profession generally.

Dr. R. G. Bogue also was greatly pleased with the subject announced and with the views of the writer. At present he has a case under observation that has caries in the upper dorsal region, that possibly would require the greatest skill in deciding positively whether the disease could be retarded in the child and deformity prevented.

Dr. D. W. Graham had considerable experience in treating this class of troubles. The greatest number of his cases had come to him throngh the dispensary, and were charity patients. The speaker thought too much importance could not be attached to early diagnosis in these unfortunate cases, and it should be regarded as a crime for parents to neglect their children at an early stage, or who failed to have them treated. The table prepared by the author is admirably gotten up. One suggestion he desired to offer, namely, that Pott's Disease might be possibly confounded with a simple affection, such as a chronic bowel trouble with pain, rather constant, or where general debility was present, or where there was prolonged disorder of the digestive organs, and if any doubt existed as

to the malady, we should make further investigation, and insist on making careful observation of the child.

Dr. R. Tilley desired to add his testimony to the value of the paper, and that we should be fully conscientious, especially in this class of cases, to make an early diagnosis. He thought, however, that the parents of charity cases did not pay proper heed to our advice regarding the welfare of their children.

Dr. Webster, in closing, thought the first speaker's suggestion was well-timed, although, possibly, muscular rheumatism may be more likely mistaken for Pott's Disease rather than all of those in the table.

Dr. Oscar J. Price then gave a report of a case of aneurismal tumor from the arch of the aorta, with the causes, varieties, difficulty in diagnosis, treatment, history and pathology of his case, of which the following main points are given:

G. R., age 40; weight 140; temperament gouty or sanguine; married; stone contractor; was first visited by the writer on the morning of the 4th of February last. The patient had just returned from a Southern trip of some three weeks' duration, having arrived home about two hours previously. Found him sitting up and dressed, quite free from excitement, and apparently in no way entertaining serious apprehension as to his condition or welfare. He had complained more or less during the past year, and there had been constantly a dull aching pain in the muscles of the right arm, which gradually extended to the upper portion of the right chest and centered there. It had become lately quite acute and hard to bear. He also had some cough and dyspnœa; was conscious of an unusually rapid action of the heart, which particularly attracted his attention upon any exertion or excitement. He stated that his trouble had been considered by his former medical attendant as muscular rheumatism, for which was pursued constant treatment, covering a period of many months. Finally, he was advised to make this Southern trip, with hopes of recovering his health; could not say whether this advice had been given with the belief that there existed a tendency to phthisis. No benefit having occurred from the change of climate, as he was conscious of feeling worse, and became more easily exhausted upon the slightest endeavor, he resolved to return home much sooner than he at first contemplated, and while in a sleeping-car was suddenly taken with a hæmorrhage from the lungs, which was very profuse and exhausting. Receiving some temporary medical attendance at the time, he soon rallied from the shock and was enabled to pursue his journey home. In response to inquiries, he stated he had generally considered himself rugged and healthy; had led a fairly temperate life; some 12 years ago, however, he had an attack of acute inflammatory rheumatism and had also in earlier years contracted syphilis.

A careful and exact examination of his chest was fraught with considerable difficulty, owing to the fact of his having just emerged from a severe hæmorrhage, and the consequent danger of exciting another. Much percussing of the chest not appearing to be warrantable under the circumstances, I was content with as gentle an examination as possible. There was a complete absence of pectoral or vocal fremitus, and indeed a total absence of all sounds over the right thorax, as elicited by auscultation. Very gentle and limited percussion appeared to reveal the existence of a cavity of presumably large proportions. In the upper portion of left lung were evidences of bronchopneumonia, while the heart was found to be crowded considerably to the left, its valves working normally, but much accelerated in action and volume. Instructions were given for the patient to immediately take to his bed, to remain perfectly quiet, and to be given cold drinks and food with a view to avoiding, in so far as possible, other hæmorrhages presumably imminent. In furtherance of this, he was placed upon a mixture containing digitalis, ergot, sulphuric acid and opium, in proper doses, with a view of controlling the expected hæmorrhage. The next morning was called early, and found patient had just had another hæmorrhage of about one pint, and was in a state of the greatest prostration, bathed in cold, clammy perspiration, and suffering acute pain, extending from about the second right intercostal space near the sternum through to the back. One gr. of ext. ergotine was immediately injected into his back, and ¼ gr. morphia sulph. in his arm. Stimulants were exhibited, and in the course of two hours his condition had materially improved, circulation and warmth being again restored, and resting quite easily. * * *

The following day, Dr. J. P. Ross saw the case in consultation, and then a very careful and extensive examination was made. It was his opinion there was an effusion in the right chest, and acting upon this belief, an aspirating needle was thrust through an intercostal space twice at different points, but without return of fluid other than a little blood. No resistance was met with, the needle, after introduction, being tipped in different directions without obstruction.

It was thus quite evident there was no effusion worth consideration, also the existence of a cavity pretty well established presumably, from collapse of lung and accumulation of blood clot, we were now warranted in arriving at but one conclusion. When it was considered that there had been no emaciation; no hectic; no tuberculous cachexia; the character and suddenness of the invasion, with the physical signs following, led irresistibly to the conclusion of the existence of a ruptured, leaking aneurism. Remedies to control the excitability of the heart's action, to allay pain, conjoined with perfect quietude, were all that was now attempted. The following night he had another severe hæmorrhage, from which he only partially rallied, only to be plunged into yet another the succeeding day, from which he gradually sank, dying on the evening of the next, a little over one week from the first hæmorrhage.

Autopsy kindly permitted by friends. Besides the author, there were present Drs. J. P. Ross, J. A. Robinson and E. P. Murdock. Eighteen hours after death, rigor mortis well established; subject fairly nourished; skin white. Incision from upper part of sternum to ensiform cartilage, thence along course of costal cartilages. Incision into right pleural cavity

caused a small amount of sero-sanguineous fluid to flow out. Heart revealed crowded to the left, and large blood clots in right pleural cavity; blood removed to the amount of over two quarts. There now appeared a large sacculated aneurism of the first portion of the arch of the aorta, enclosing a large fibrinous mass some four inches in diameter. Pericardium adherent to heart; sac of aneurism adherent to right pleura; p. m. clot in right auricle; aneurism ruptured, opening into the pleural cavity at the lower portion of upper lobe of right lung in front, also an opening into the upper portion of the right upper lobe communicating with a bronchial tube, the lung being filled with blood, completely collapsed, and its tissue very fragile. The heart was enlarged and dilated, the walls of the left ventricle being thin and infiltrated with fat, especially toward the apex. Very slight fibrous deposit or vegetation on one aortic valve; the sac of aneurism so large as to contain a man's double fist, its distended vascular coverings having undergone such changes as to render them quite unrecognizable. The inner aspect presented a rough, uneven surface, composed of laminated fibrin and fresh blood clot. These layers of fibrin had been built upon each other into liberal proportions, so as to virtually constitute all that remained of the aneurismal sac.

(The specimen was then presented for observation). In contemplating this case it is interesting to observe the length of time the patient survived after such a formidable rupture, which evidently ushered in the first hæmorrhage, the inference being that the heart, temporaily relieved of its force and impetus, permitted a large-sized coagula to block up the opening for the time, subsequent hæmorrhages resulting from the instability of the same, which, doubtless, was considerably guarded against by perfect repose and quiet. The usual connection between aortic aneurism and ventricular hypertrophy is again illustrated in this case. There had also been, as already stated, pericarditis, which presumably took its origin from the severe attack of inflammatory rheumatism several years before, although it is perhaps questionable if the propulsive action of the heart alone is able to produce aneurism, unless of a diseased artery. It is reasonable to suppose, however, that a disease which may produce endocarditis and pericarditis may also cause endoarteritis. The history of the case also furnishes another somewhat commonly accepted cause for aneurism, negative testimony to the contrary.

Military statistics would appear to demonstrate that a large number of cases of inflammatory involvement of blood-vessels ending in atheroma or fibrous thickening of the coats of the vessels are of syphilitic origin. Admitting that this is by no means established it would still appear that it is a disease in common with rheumatism tending to impair, not only the functional properties, but the nutrition and structure of arterial walls, and is thus justly entitled to due consideration as a possible element in the case. Reasoning by exclusion, the patient had not been addicted to more than ordinary, or a very moderate indulgence in alcoholic drinks, and therefore can hardly be said to have furnished this supposedly frequent factor to the malady. Muscular effort or over-exertion also, as superinducing elements, appear to have no proper claim to consideration, as the patient had for fifteen years preceding death led a very quiet life relieved from manual labor. In estimating the general causes of aneurism, it is, of course, an open field for conjecture and capable of many and diverse illustrations. Still it would appear that the history of this case furnishes one, if not two, very reasonable and commonly accepted conditions leading to its development. Diseases which frequently terminate in a chronic inflammation of the internal coat of an artery may be properly classed as predisposing to aneurism, and such this case affords. Aside from traumatic origin, it is evident that structural lesions of a destructive tendency, involving the middle and internal coats of arteries, play an important part in the production of aneurism.

Thus we have the conditions most favorable to the formation of plastic deposits on the free surface, which are so commonly met with in the aorta or larger vessels. From this plastic inflammatory process commencing in the lining membrane morbid changes are initiated, involving the middle coat, which, becoming thinned by pressure, soon softens and yields, forming a kind of pouch or depression. Firm adhesions are now found between the two membranes, and we have the commencement of an aneurism. It is evident the natural tendency of such a destructive process would be to rupture, but, in accordance with the wonderful preservative powers of nature, conservative forces are set into action, also the external coat becomes thickened, indurated, and supported by this deposition of plastic matter going on beneath it until it becomes a firm and rugged barrier, thus preventing for a long time, and sometimes permanently, the perforation of the sac. It is, however, inelastic, and performs no proper part in the distributing of blood which passes through it. Its caliber, therefore, must gradually dilate, its pouch-like form becoming the natural receptacle for the deposition of coagula and fibrous deposit, and the specimen affords an excellent observation of the laminated type, built upon itself layer upon layer, adhering firmly to the interior of the sac, and arranged concentrically like the coverings of an onion. Its large size would seem to indicate it had been a long time in forming.

DISCUSSION.

Dr. R. Tilley thought if syphilis was a cause of aneurism (which was remote in this case, in his having the disease prior to twelve years ago), it did not establish the fact that the man had aneurism.

Dr. H. J. Reynolds asked if there were no murmurs present? Answered no. There were no sounds in the right portion of the thorax. The heart was crowded out of its place (to the left) and enlarged.

Dr. P. C. Jensen inquired of the author if there were ever present girdled pains around the patient's chest at night? Answered, would hardly regard them as such. There was a good deal of pain in the right chest, in the second intercostal space, especially when the violent hæmorrhages occurred.

Dr. W. L. Axford thought aneurism was not always easy to diagnose. The great Liston once opened what he supposed to be a boil on the chest of a man, when the patient at once sank, bleeding to death, caused by an aneurism that he had cut into.

Dr. C. E. Webster asked, if there was any erosion of any of the vertebræ, or symptoms of erosion of the sternum, present?

Answered, no, not the least.

Dr. W. E. Clark asked, how long before death was the patient aspirated?

Answered, 36 hours.

Dr. L. H. Montgomery asked, if the patient had taken iodide of potassium for rheumatism, and for the specific disease, as well, probably, as for the influence it may exert over aneurisms, and further, was there no incipient stage of the aneurism present a year ago?

Regarding the case reported. I am well acquainted with a brother of the deceased; a gentleman who is a carrier in the post-office, and whose family I have attended for several years. He told me that nearly two years ago the deceased had witnessed a sad accident, in which his 12 year old son had been killed; that his body was mangled horribly, while he stood but a few feet away at the time the accident occurred, and he saw his boy's head crushed off. The father stood apparently motionless and speechless, his features becoming very pale at the ghastly sight he beheld. If this be so, could not the heart's action temporarily intermit or cease to beat for a few pulsations, caused by a sort of paralysis, the result of what he had seen? It was from about this date that he had complained of more or less pain in the side and chest.

Dr. Price, in closing, stated in reply to the last speaker, that he had treated the patient a year ago, and gave iodide of potash in 10 grain doses to him, three or four times a day for four weeks. Secondly, he thought the accident, which has just been spoken of, might possibly have produced the starting or incipient stage of the aneurism; and thirdly, while the deceased was South some ten days before death, he engaged in violent exercise, that of jumping 8 feet 2 inches. This he did twice, and became ill shortly after.

Upon motion the society adjourned.

L. H. M.

STATE MEDICINE.

LAWS OF INHERITANCE.

BY NATHAN ALLEN, M.D., OF LOWELL, MASS.

The following extracts are from the fourteenth annual report of the Board of State Charities, of this State. The subject of the laws of inheritance is here discussed in a lucid and comprehensive manner. Few gentlemen have studied it more thoroughly than the writer of this report, Dr. Allen, of this city, with whose writings our readers are familiar.

In the second report of the Board of Charities, it was stated that one of these primary sources is an "inherited organic imperfection of the body, a vitiated constitution, or, in other words, poor stock." Since that statement was made, our conviction of its truth has been confirmed more and more by careful inspection and inquiry among the inmates of the State institutions. While many of these persons, by indolent and vicious habits, have contributed to their own degradation, still, there were predisposing causes in their constitutions which had a powerful influence in the same direction. Many inherited feeble bodies and weak minds, with strong propensities. They commenced life amid circumstances most unfavorable for developing the better qualities of their nature. In attempting, therefore, to ascertain everything that has formerly contributed to make these persons paupers, criminals, or lunatics, we must not only take into account their own agency, but must consider well the nature and amount of capital which they had to start with in life.

No fact in science is better established than that there is a most intimate mental as well as physical relation between the parent and the child—between each generation and the succeeding one. This relation has been well expressed in the proverbs, "What is bred in the bone can not be whipped out of the flesh," and "Like begets like." The hereditary relation has, we believe, a far greater agency in producing social evils than has generally been conceived. This relation extends, by transmission, not only to the form of the body and the features of the countenance, but to every part of the system—to the quality of the blood—especially to those vital organs which give stamina of constitution and beget mental predispositions. Whatever agencies, therefore, are calculated to injure the body or deprave the mind, to incapacitate an individual for self-support, or to make him a corrupter of others, should certainly be exposed by the guardians of public charity.

Among the most mischievous agents operating injuriously upon the human system, is alcohol; and whether we consider the extent of its abuse, in various forms, or the terrible effects which it produces, it certainly stands foremost as a cause of pauperism and other evils. It poisons the blood, and produces a diseased or morbid condition of almost every organ of the body. It affects the brain, impairs the intellect, perverts the moral sentiments and the will, and increases unduly the activity and strength of the worst propensities. It prostitutes the higher to the lower nature of man, changing what should be the true aims and objects of life to those of a low animal nature.

Closely connected with the alcoholic poison is another, which, though not so manifest in its effects, has a most destructive influence upon human welfare. This poison arises from habits of licentiousness, and its evil effects do not cease with the living, but extend through successive generations. The syphilitic poison operates on the human system in so covert a manner, and in such a variety of ways, that it is sometimes found difficult to trace out all these effects; but the more thoroughly the pathological and morbid conditions of the body are brought to light by modern science, the more extensively are discovered

the mischiefs which this poison has wrought. If the amount of vice, disease and pauperism produced from this source alone could be made known, it would surprise people. In some respects this poison is more destructive of health and life than the poison of alcohol.

But there are other modes of abusing the reproductive organs which injure most seriously both body and mind. A careful inspection of the inmates of our almshouses and hospitals will show a vast amount of suffering from this abuse. It is the hereditary effects of these evils that make them especially significiant in the production of pauperism and insanity. To aggravate the matter, their effects are communicated in an intensified form, from generation to generation, and it is very difficult to check or eradicate them either by human means or through the recuperative powers of nature.

Besides these two poisons. there are other agencies that injure the body and enfeeble the mind, such as narcotics, stimulants, over-medication, &c. Then come irregular habits, want of proper nutrition, and a train of diseases which either destroy their victims or make them helpless and dependent. When the physical system is impaired or broken down, the mental faculties frequently become enfeebled and depraved, so that not only poverty and temporary dependence, but habitual indolence and shiftlessness also ensue. Such a state of things makes paupers, who, by natural association, form social and domestic relations with each other. The more such persons become associated together, either in families or communities, the more unfavorable is the influence of one upon another, the whole tendency of things being to sink them lower and lower in the human scale. Worst of all, whatever offspring these persons have are pretty sure to be impregnated with vice, pauperism and crime, by the law of inheritance as well as by the habit of association. A careful inquiry into the origin, history and character of the inmates of our public institutions will abundantly prove and illustrate these statements.

So important was this subject deemed by the Senate and Assembly ot New York, that an inquiry into the causes of pauperism was ordered in 1873, which has recently been completed and its results made public. The inquiry seems to have been thoroughly made by the Secretary of the Board of State Charities, occupying his time, more or less, for several years. Over 12,000 persons, scattered in the town, city and county almshouses of the State, were examined, with reference to the leading facts connected with their pauperism. Of these, 6,566 were foreign, born in the almshouse; 3,106 could neither read nor write; 6,133 had been intemperate. Of the 4,147 chronic insane, 44 per cent. had been intemperate. Of the whole 12,000, 2,030 were homeless children, 1,750 of whom had pauper fathers and mothers. The average stay of all the paupers iu the almshouses was 4.88 years—almost five years' residence. More than 30 per cent. of the paupers had intemperate parents; many had a large circle of relatives who had been or were then in almshouses. Few persons were found to be paupers by their own misfortunes in business, or sudden loss of property. The dependence of most paupers was induced largely by immoral and sensual habits, long indulged, or by habits of idleness and shiftlessness, which in many cases might have been early arrested by proper measures.

As one of the results of this inquiry, the New York Legislature passed a law directing that children found in the almshouses of the State should be removed, and discontinued thereafter the entrance of children into such institutions—intending to provide for them in asylums, or find them homes in private families.

While this inquiry was going on, the New York Prison Association provided for a careful investigation into the causes of crime and pauperism among the inmates of the jails and prisons of the State. Among the results of this investigation, the history of a remarkable family is given, under the name "The Jukes," extending back six generations, where, from one bad woman, nearly a thousand persons, by birth, relationship, and association, became paupers or criminals. This history shows the great power and influence of heredity and early association in the production of pauperism and crime, more forcibly than ever before.

It demonstrated that the seeds, or primary causes, of these evils are connected with the great laws that govern human life farther back than has been generally supposed. This family history brings up, also, the relations between "heredity and environment," and suggests means or agencies which may be employed to prevent or check the miseries originating from these two sources. The more this whole subject is investigated, the more evident it becomes that in order to check the increase of pauperism, crime, and insanity, the remedy must be applied to their primary sources. It will be found, too, that these are, to a great extent, under the control of human agency.

A careful examination of all the facts shows that, in addition to the hereditary influence, ignorance, idleness, intemperance, and prostitution are prime factors that enter into the complex product of pauperism and crime. The hereditary agency precedes these personal factors, and predisposes to their activity and control. It is evident that the germs or predispositions originate in physical organization and development. These secondary agencies would not be called out, or would have but little influence, if the right kind of material for their operation had not been provided. This proposition may be more clearly illustrated in the case of disease and insanity. It is found, as already said, that by a thorough and systematic application of sanitary science about one-third of all disease may be prevented, and human life much prolonged. At the same time, inherited imperfections, weaknesses, and predispositions to disease already existing in the human body, stand in the way and prevent the full benefit of sanitary agencies. These hereditary predispositions or liabilities to disease are, however, very much alleviated, if not checked in their operation, by hygienic means; but if they did not exist, how much less disease would call for treatment, and bow much more success would attend well-chosen measures!

Now, disease itself among the poor, especially where there is not much native energy and perseverance, is a primary cause of pauperism; and, if disease become chronic or organic, its influence is still greater. It is not the cost of illness (though this is no small item) so much as its effects in disabling the body for work, and breaking down the mental energies, which does the mischief. And to make the matter worse, the seeds of disease are communicated to offspring in an aggravated or intensified form. Besides, the preliminary stages of illness among these classes being often neglected, and the recuperative powers of nature very small, diseases of all kinds, and especially those of a scrofulous nature, are quite sure to have their run, and become chronic. A constitutional disease, becoming chronic and combined with scrofula, is a powerful factor in the production of pauperism. The fact is, hereditary influences, in a great variety of ways, enter largely into pauperism. Thus, the more extensively sanitary science can be applied among the poorer classes, in the prevention and cure of disease, the more it helps to diminish pauperism. In this way, boards of health become public benefactors, and Legislatures should provide most liberally for their support.

In the history of the insane, the deaf and dumb, the blind, the idiotic and feeble-minded, hereditary influence is still more apparent. It is well known that these defective classes afford a large numher of paupers. In regard to the insane, the fact is pretty well established that the malady in fully one-half of the cases may be traced, directly or indirectly, to hereditary influences, and that in the other defective classes a still greater proportion can trace the origin of their troubles to this source. In the case of other paupers, it is more difficult to follow out hereditary influences; but the better the laws of descent are understood, the more significant become the indications of heredity in pauperism. It should be borne in mind, that it is not the mere form of an organ or similarity of construction that is transmitted by parents, but the peculiar uses to which the organs are applied, or rather the habits and character of the individual. Let those portions of the brain which officiate as the organs of the lower propensities be more active than those connected with the intellect and the moral sentiment, and kept continuously so for years, and a predominance of the animal nature is sure to be transmitted from the parent to the child. The same law holds good as to all parts of the brain or other organs of the body. Let selfishness, laziness and sensual habits control the parents, and their offspring will surely partake of the same character, provided surrounding associations do not prevent.

SURGEON-GENERAL OF THE NAVY.—The President has appointed Surgeon Gunnell as Surgeon-General and Chief of the Bureau of Medicine and Surgery of the Navy.

M. TARNIER has been appointed Professor of Obstetrics and Diseases of Women and Children in the Faculté de Médecine, of Paris.

DOMESTIC CORRESPONDENCE.

FROM WASHINGTON.

The bill to provide for the establishment of a bureau of animal industry to prevent the exportation of diseased cattle, and to provide means for the suppression and extirpation of pleuro-pneumonia and other contagious diseases among domestic animals, the provisions of which were given in No. 1, Vol 2, of this journal as having been introduced into the House of Representatives, was taken up by the House on February 5. The bill was accompanied by several reports. The report from the Committee on Agriculture was unanimous in its recommendation that the bill pass, and after considering its various clauses, it emphasized that clause which provides for the exportation of live stock from the United States under such terms and conditions as the Secretary of the Treasury may from time to time prescribe, and referred to the action of foreign governments looking towards their own protection against our want of legal enactments in the premises. The British government has given notices in both houses of Parliament of motions to be made to totally prohibit the landing of our animals on its shores. The French government recently published an edict prohibiting the importation of any of our pork product into France; this shuts us out of a trade which had already reached $19,000,000 annually and was increasing at the rate of about $5,000,000 yearly. Germany has already placed a restriction upon the importation of these products, and there are indications that other countries may follow this lead. A statement from Dr. D. C. Salmon, veterinary surgeon of the Department of Agriculture, gave the extent of pleuro-pneumonia in Connecticut, New York, New Jersey, Pennsylvania, Maryland, and the District of Columbia, as large and dangerous. Pennsylvania, by the vigorous methods used to extirpate the disease, is now believed to be free from it. The reasons for believing it to be contagious were reiterated, and the fact that the danger was greater than the extent of infected territory and number of diseased animals would indicate, was strongly put. The remainder of Dr. Salmon's argument was taken up in showing the inefficacy of State action, the advantages of the work being directed by the United States government, the fact that the presence of pleuro-pneumonia costs annually more than would be necessary for its destruction, and the importance of investigating other diseases.

The discussion seemed to turn mainly upon the interference of the Federal government with State authorities, and was continued through parts of the daily sessions of Feb. 5, 6, 23, 25, 26, 27, and 28. Mr. Belford, in his argument, gave in some detail the experimental researches of Drs. Law, Detmer, and Salmon, in investigating and determining the causes producing, and, if possible, in discovering remedies for the diseases of hogs and the other domesticated animals, which he put in a very concise and interesting form. On Feb. 28 the bill was passed as follows:

It provsded that the Commissioner of Agriculture shall organize a bureau of animal industry, and appoint a chief thereof, whose duty it shall be to investigate and report upon the number, value, and condition of domestic animals of the United States, and also the cause of contagious and communicable diseases among them, and the means for the prevention and cure of the same. He is authorized to appoint two competent agents, whose duty it shall be to report upon the best methods of treating, transporting, and caring for animals, and the means to be adopted for the suppression and extirpation of contagious pleuro-pneumonia. The bill further provides that the Commissioner of Agriculture may expend so much of the money provided by this act as may be necessary in paying for the animals it is deemed necessary to slaughter, and in such disinfection and other means as may be necessary to extirpate disease. The authorities of the States shall pay one-half of the expense of the animals it is deemed necessary to slaughter, and one-half of the cost of disinfection and care of the herds of cattle. It prohibits the transportation from one State to another of any live stock infected with any contagious or infectious disease, and provides for the prosecution of any person violating this prohibition. The sum of $250,000 is appropriated to carry into effect the provisions of the bill.

NATIONAL MEDICAL SCHOOLS BY ACT OF CONGRESS.

MR. EDITOR:

In common with the profession, I am watching with a good deal of interest the development of the plan to establish schools of medicine by law of Congress, as contemplated in Mr. Call's bill for the establishment of a national medical university, and I am much pleased with your suggestion, to add chairs for the demonstration of the claims of the "faith cure," and the total abstinence from alcohol schools, and I hope your suggestion will meet with the favor of our representatives. The greatest difficulty will be in finding enough allopathic doctors to fill the chairs allotted to that school. I have been a member of the American Medical Association since its formation, and am free to say, I have never met an allopathic doctor amongst its members, or for that matter anywhere else. I have met electropathists, homœopathists, hydropathists, eclectics, faith curists, prayer curists, mesmerists, fumblers, and blue glassists, but never an allopathist. A doctor who proclaims "contraria contrariis curanter" to be the only true principle of practice, and that he pursues that practice to the exclusion of all others, or who believes in it at all as a scientific dogma, must be a rare bird, indeed. The Code of Ethics does not prohibit a member of the American Medical Association from adopting any therapeutic method that his reason or experience may suggest to him for the help of his patients, but, he may not proclaim that method to be the only rational or scientific method of treating disease to the exclusion of all other methods.

I hope Call's bill will become a law, because I think it will do more for rational medicine than can be done in any other way, simply because it will dispel a popular delusion originating in schools that have ever made their success by catering to popular credulity, and crying out against a profession that long ago cut loose from all theory, all dogmas, and adherence to the teachings of any master, only admitting a thing to be absolutely true, when proved by the general test of universal experience.

It is about time that the public should learn that personal skill is the desideratum in the practice of medicine, independently of any school or any master. There are many methods of treating disease, but the success of any method depends on the skill of the individual practitioner, and not upon any iron-clad dogma, and the chief glory of modern medicine, as represented by the profession at large, consists in its entire freedom of opinion on all questions of science and art in their application to practical ends.

DANIEL LEASURE, M.D.
36 Jackson st., St. Paul, Minn.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT UNITED STATES ARMY, FROM MARCH 1, 1884, TO MARCH 7, 1884.

Perin, Glover, Lieutenant-Colonel and Surgeon, Medical Director, Dept. of Dak., leave of absence extended 20 days. (S. O. 23, Headquarters Division of the Missouri, March 5, 1884.)

Bill, J. H., Major and Surgeon, granted leave of absence for one month. (Par. 1, S. O. 20, Headquarters' Dept., Platte, March 3, 1884.)

Baily, J. C., Major and Surgeon, granted leave of absence for one month, to take effect on or about March 1, 1884, with permission to apply to the Adjutant-General of the Army, through Division Headquarters, for an extension of three months. (S. O. 24, Headquarters' Department, Texas, Feb. 26, 1884.)

Bache, Dallas, Major and Surgeon, leave of absence extended 7 days. (Par. 1, S. O. 43, Headquarters' Department, East, March 5, 1884.)

Stephenson, William, First Lieutenant and Assistant Surgeon, ordered to Fort Niobrara, Neb., for temporary duty, on completion of which to return to his station, Fort Omaha, Neb. (Par. 4, S. O. 20, Headquarters' Department, Platte, March 3, 1884.)

Fisher, Walter W. R., First Lieutenant and Assistant Surgeon, assigned to duty at the Presidio of San Francisco, Cal., from 18th inst.

Polhemus, A. S., First Lieutenant and Assistant Surgeon, assigned to duty at Fort Winfield Scott, Cal., from 18th inst. (S. O. 23, Par. 1 and 2, Headquarters' Department, Cal., Feb. 21, 1884.)

Phillips, John L., First Lieutenant and Assistant Surgeon, assigned to temporary duty at Fort Warren, Mass. (Par. 2, S. O. 39, Headquarters' Department, East, Feb 28, 1884.)

Benham, R. B., First Lieutenant and Assistant Surgeon, relieved from duty at Fort A. Lincoln, D. T., and ordered to Fort Sisseton, D. T. for duty. (Par. 1, S. O. 22, Headquarters' Department, Dak., Feb. 26, 1884.)

CHANGES IN THE MEDICAL CORPS OF THE NAVY FOR THE WEEK ENDING MARCH 8, 1884.

P. A. Surgeon H. E. Ames, from the "Colorado," and ordered to the Greely Relief Str. "Bear."

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